CITY OF STOCKTON

PUBLIC WORKS DEPARTMENT

SPECIAL PROVISIONS
FOR

CALIFORNIA STREET ROAD DIET

Prepared for
City of Stockton

Dated January 24, 2023

CALIFORNIA STREET ROAD DIET
PROJECT NO. PW1805

The special provisions contained herein have been prepared by or under the direction of the following Registered Persons.

REGISTERED CIVIL ENGINEER

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SPECIAL PROVISIONS
FOR
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DIVISION I GENERAL PROVISIONS

SECTION 1 - SPECIFICATIONS AND PLANS

1-1.01 SPECIFICATIONS

The work described herein shall be done in accordance with the current City of Stockton, Department of Public Works Standard Specifications and Plans, and the latest Editions of the State of California, Department of Transportation Standard Specifications and Standard Plans, California MUTCD, as referenced therein, and in accordance with the following Special Provisions. To the extent the California Department of Transportation Standard Specifications implement the STATE CONTRACT ACT, (or certain provisions of the Public Contracts code which are inapplicable to charter cities) they shall not be applicable.

In case of conflict or discrepancy between any of the Contract Documents, the order of documents listed below shall be the order of precedence, with the first item listed having the highest precedence.

1. Contract, Including Change Orders (changes last in time are first in precedence)
    a. Project Special Provisions
    b. Project Plans
    c. City of Stockton Standard Specifications
    d. City of Stockton Standard Drawings
    e. Revised Caltrans Standard Specifications
    f. Caltrans Standard Specifications
    g. Revised Caltrans Standard Plans
    h. Caltrans Standard Plans
    i. Supplemental Project Information

Should it appear that the work to be done or any of the matters relative thereto are not sufficiently detailed or explained in these specifications, the special provisions, or the plans, the contractor shall apply to the Engineer in writing for such further explanations as may be necessary and shall conform to them as part of the contract. In the event of any doubt or question arising respecting the true meaning of these specifications, the special provisions or the plans, reference shall be made to the Engineer, whose decision thereon shall be final. With regards to discrepancies or conflicts between written dimensions given on drawings and the scaled measurements, the written dimensions shall govern. With regards to discrepancies or conflicts between large-scale drawings and small-scale drawings, the larger scale shall govern. With regards to discrepancies or conflicts between detailed drawings and referenced standard drawings or plans, the

detailed drawings shall govern. In the event where provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive and higher quality shall govern.

1-1.02 PLANS

The bidder's attention is directed to the provisions in Section 1-1.03 "Definitions", of the Standard Specifications and Section 1-1.07 "Definitions", of the Standard Specifications.

See Instructions to Bidders for complete instructions and documentation forms.

1-1.03 TERMS AND DEFINITIONS

Wherever in the Standard Specifications, Special Provisions, Notice to Contractors, Proposal, Contract, or other contract documents the following terms are used, the intent and meaning shall be interpreted as follows:

City or Owner -	City of Stockton
Director -	Director of Public Works, City of Stockton
Standard Specifications -	Current City of Stockton, Standard Plans and Specifications, inclusive of all current revisions, and amendments, unless otherwise stated.
Caltrans Specifications -	State of California, Department of Transportation, Current Standard Plans and Specifications, inclusive of all current revisions, and amendments, unless otherwise stated.
Laboratory -	City of Stockton Department of Public Works Laboratory or consultant's laboratory
Department -	Department of Public Works, City of Stockton
Engineer -	City Engineer, City of Stockton, acting either directly or through properly authorized Engineer agents and consultants.
California MUTCD	Latest edition of California Manual on Uniform Traffic Control Devices (MUTCD), and any amendments and revisions thereto.
Working Day	defined as any eight-hour day, except as follows: Saturday, Sunday, and City recognized holidays.

SECTION 2 – BIDDING AND BID PROTESTS

2-1.01 GENERAL

The bidder's attention is directed to the "Notice to Contractors" for the date, time and location of the mandatory pre-bid meeting, if applicable. Refer to the City of Stockton's Bid Flash webpage: http://www.stocktongov.com/services/business/bidflash/default.html The bidder's attention is directed to the provisions in Section 2, "Bidding," of the Standard Specifications and these special provisions for the requirements and conditions which the bidder must observe in the preparation for the submission of the bid.

The Bidder's Bond form mentioned in the last paragraph in Section 2-1.34, "Bidder's Security," of the Standard Specifications will be found following the signature page of the Proposal.

In conformance with Public Contract Code Section 7106, a Non-collusion Affidavit is included in the Proposal. Signing the Proposal shall also constitute signature of the Non-collusion Affidavit.

The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of Title 49 CFR (Code of Federal Regulations) part 26 in the award and administration of US DOT assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deems appropriate. Each subcontract signed by the bidder must include this assurance.

2-1.02 BID PROTEST

In case of Bid protests, attention is directed to the provisions in Section 2-1.51, "Bid Protests" of the Standard Specifications. The party filing the protest must have submitted a bid for the work. A subcontractor of a bidder may not submit a bid protest.

A copy of bid protests is to be sent to the following address:

Attention: Mohammad Sadiq, P.E.
City of Stockton
Public Works Department
22 E. Weber Avenue, Room 301
Stockton, CA 95202

SECTION 3 – CONTRACT AWARD AND EXECUTION

The bidder's attention is directed to the provisions in Section 3, "Contract Award and Execution," of the Caltrans Specifications and these Special Provisions.

The award of the contract, if it be awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed.

SECTION 4 – SCOPE OF WORK

Attention is directed to the provisions in Section 4, “Scope of Work” of the Standard Specifications, Standard Specification, and these Special Provisions.

At no time shall construction begin without receiving notice that the contract has been approved by the City Attorney or an authorized representative. The Contractor shall follow the sequence of construction and progress of work as specified in Section 10-1.01, "Order of Work", of these Special Provisions.

The Contractor shall diligently prosecute all work items to completion.

Full compensation for any additional costs occasioned by compliance with the provisions in this section shall be considered as included in the prices paid for the various contract items of work, and no additional work compensation will be allowed therefore.

Bidders will be required to carefully examine these special provisions and attachments to judge for themselves as to the nature of the work to be done and the general conditions relative thereto and the submission of a proposal hereunder shall be considered prima-facie evidence that the bidder has made the necessary investigation and is satisfied with respect to the conditions to be encountered, the character, quantity and quality of the work performed. For work to be completed, contractors are advised to visit and review the job site prior to the submission of their bid. Bids not presented on the City forms shall be cause for considering the bid as non-responsive.

Bidders must be thoroughly competent and capable of satisfactorily performing the work covered by the proposal, and when requested shall furnish such statements relative to previous experience on similar work, the plan or procedure proposed, and the organization and the equipment available for the contemplated work, and any other as may be deemed necessary by the City Engineer in determining such competence and capability.

It shall be understood that the Contractor shall be required to perform and complete the proposed work in a thorough and diligent manner, and to furnish and provide in connection therewith all necessary labor, tools, implements, equipment, materials and supplies. The Contractor is responsible to take all necessary precautions and use best practices in the industry to perform all work require completing the project.

4-1.01 CHANGES AND EXTRA WORK

Attention is directed to the provisions in Section 4-1.05A “Changes and Extra Work” of the Standard Specifications and these Special Provisions.

4-1.02 DIFFERING SITE CONDITIONS (23 CFR 635.109)

Attention is directed to the provisions in Section 4-1.06, "Differing Site Conditions," of the Caltrans Specifications and the Standard Specifications. Contractor shall notify the Engineer if he/she finds physical conditions differing materially from contract documents.

4-1.03 CLEANUP

The Contractor's attention is directed to Sections 4-1.13, "Cleanup," of the Caltrans Specifications.

The Contractor shall conduct and cause all working forces at the site to maintain the site in a neat orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control, the Contractor shall use water to reduce the dusty conditions all to the satisfaction of the Engineer. During construction, the Contractor shall remove all rubbish and debris as it is generated. Upon completion of the work, the Contractor shall remove all equipment, debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer.

SECTION 5 – CONTROL OF WORK

Attention is directed to the Instruction to Bidders, provisions in Section 5 "Control Work" of the Standard Specifications, Standard Specification and these special provisions.

5-1.01 CONTRACT COMPONENTS

Attention is directed to the provisions in Section 5-1.02,"Contract Components" of the Standard Specifications. If a discrepancy found or confusion arises, submit a Request for Information (RFI).

5-1.02 SUBCONTRACTING

The contractor shall **physically attach** the FHWA Form 1273 (revised May 1, 2012, which is included in Instructions to Bidders) to all contracts, subcontracts, and lower tier subcontracts.

Attention is directed to the provisions in Section 5-1.13A, "Subcontracting," of the Standard Specifications, and Caltrans Specifications.

Pursuant to the provisions of Section 1777.1 of the Labor Code, the Labor Commissioner publishes and distributes a list of contractors ineligible to perform work as a subcontractor on a public works project. This list of debarred contractors is available from the Department of Industrial Relations web site at: http://www.dir.ca.gov/DLSE/Debar.html

5-1.03 COORDINATION WITH OTHER ENTITIES

5-1.03A PERMITS

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the work. The Environmental Quality Act (Public Resources Code, Sections 21000 to 21176, inclusive) may be applicable to permits, licenses and other authorizations which the Contractor must obtain from local agencies in connection with performing the work of the contract. The Contractor shall comply with the provisions of those statutes in obtaining the permits, licenses and other authorizations and they shall be obtained in sufficient time to prevent delays to the work. In the event that the City has obtained permits, licenses or other

authorizations, applicable to the work, in conformance with the requirements in the Environmental Quality Act, the Contractor shall comply with the provisions of those permits, licenses and other authorizations. The following is a non-inclusive list of the required permits and/or licenses:

- Contractor's License. At a minimum the Contractor shall possess at the time of bid and maintain throughout the duration of the contract, a valid California Class A.
- Business License. Contractor shall possess prior to the execution of the contract and maintain throughout the duration of the contract, a valid City of Stockton business license.
- City of Stockton Encroachment Permit (no fee)
- State's Water Resources Control Board Stormwater Construction General Permit (contractor pays) – Notice of Intent (NOI) and Notice of Termination (NOT)
- Construction Notification, dust control – The Contractor is responsible for the preparation and submittal of the San Joaquin Valley Air Pollution Control District Construction Notification Form. More information can be found at the following web site: http://www.valleyair.org.
- Construction Water – The Contractor is responsible for obtaining a permit for water from California Water Service, as applicable, for construction water obtained from a City hydrant. This permit shall be approved by the City of Stockton Fire Department.
- Construction and Demolition Debris Recycling

Full compensation for conforming to the provisions in this section including applicable permit fees, shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

5-1.04 SUBMITTALS

The following is a list of anticipated submittals for the project. The list is provided to aid the Contractor in determining the scope of work, but is not intended to be all inclusive and additional submittals may be required:

- Contractor Safety Plan
- Critical Path Schedule
- Traffic Handling/Construction Staging Plans
- Storm Water Pollution Prevention Plan (if total disturbed area is more than 1 acre)
- Funding Sign(s) Installed (if applicable)
- Pre-construction Monument Preservation Survey
- Temporary Traffic Control (includes Pedestrian Detour Plan)

- Hot Mix Asphalt Mix Design
- Portland Cement Concrete Mix Design
- Concrete Admixtures
- Plastic Pipe
- Pipe Joint Gasket Material
- Survey Monument Boxes
- Staging Agreement with private property owners (if applicable)
- City of Stockton Encroachment Permit
- City's Construction and Demolition Debris Recycling Report
- List of submittals
- Product submittals
- Lead Compliance Plan
- A Schedule of Values

The Contractor shall transmit each submittal to the Engineer for review and approval with the submittal form approved by the Engineer. Submittals shall be sequentially numbered on the submittal form. Resubmittals shall be identified with the original number and a sequential resubmittal suffix letter. The original submittal shall be numbered X. The first resubmittal shall be numbered X-a and so on. Identify on the form the date of the submittal, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and/or special provision number, as appropriate. The Contractor shall sign the form certifying that review, approval, verification of Products required, field dimensions, adjacent construction work, and coordination of information is in accordance with the requirements of the work and contract documents. Any incomplete submittals will be returned for resubmittal.

Schedule submittals to expedite the Project, and deliver to Engineer at the Engineer's office, see Section 10-1.01, "Order of Work," of these Special Provisions.

For each submittal for review, allow 15 calendar days excluding delivery time to and from the Contractor.

Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

When revised for resubmission, identify all changes made since previous submission.

Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

Submittals not requested either in the Contract Documents or in writing from the Engineer will not be recognized or processed.

Within 10 calendar days after Notice of Award submit a complete list of all submittals to be submitted and the dates when they will be submitted. **All submittals shall be submitted within 15 calendar days from the date the Notice of Award; otherwise project working days will commence, with or without issuance of the Notice to**

Proceed.

Wherever called for in the Contract Documents, or where required by the Engineer, the Contractor shall furnish to the Engineer for review, 1 set, plus one reproducible copy, of each shop drawing submittal. The term "Shop Drawings" as used herein shall be understood to include detail design calculations, shop drawings, fabrication and installation drawings, erection drawings, list, graphs, catalog sheets, data sheets, and similar items. Whenever the Contractor is required to submit design calculations as part of a submittal, such calculations shall bear the signature and seal of an engineer registered in the appropriate branch and in the state of California, unless otherwise directed.

Normally, a separate submittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single form will be permitted only when the items taken together constitute a manufacturer's "package" or are so functionally related that expediency indicates review of the group or package as a whole. A multi-page submittal shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the Engineer.

Except as may otherwise be indicated herein, the Engineer will return prints of each submittal to the Contractor with their comments noted on the submittal. The Contractor shall make complete and acceptable submittals to the Engineer by the second submission of a submittal item. The City reserves the right to withhold monies due to the Contractor to cover additional costs of the Engineer's review beyond the second submittal.

If a submittal is returned to the Contractor marked "NO EXCEPTIONS TAKEN", formal revision and resubmission of said submittal will not be required.

If a submittal is returned to the Contractor marked "MAKE CORRECTIONS NOTED", formal revision and resubmission of said submittal will not be required.

5-1.05 JOB SITE APPEARANCE

Attention is directed to Section 4-1.13 "Cleanup" of the Caltrans Specifications, Section 5-1.31 "Job Site Appearance" of the Standard Specifications, and these Special Provisions.

The Contractor shall maintain a neat appearance to the work.

Broken concrete and debris developed during clearing and grubbing shall be disposed of concurrently with its removal. Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars ($250) for every calendar day where debris has remained on the job site overnight.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

5-1.06 STAGING AREA

Attention is directed to Section 5-1.36E, "Use of Private property," of the Standard Specification and these Special Provisions. The street right-of-way shall be used only for activities that are necessary to perform the required work. The Contractor shall not occupy the right-of-way or allow others to occupy the right-of-way for material storage or other purposes that are not necessary to perform the required work.

5-1.07 CONSTRUCTION STAKING

Section 5-1.26, "Construction Surveys", of the Standard Specifications is deleted, and replaced with the following:

1. The Contractor shall be responsible for all construction survey stakes necessary to construct the project in accordance to the lines, grades, sections, stage construction/traffic handling, and traffic signalization, pavement delineation plan described in the plans and specifications.

2. Contractor shall be responsible referencing all existing monumentation within the limits of the project prior to removal of any existing monuments. Monument referencing shall be reviewed and approved by the engineer prior to commencing of the work.

3. The Contractor shall employ a Land Surveyor registered in the State of California or an appropriately registered Civil Engineer to perform such survey work. All stakes and marks set by the Contractor's Land Surveyor or Civil Engineer shall be carefully preserved by the Contractor. In case such stakes and marks are destroyed or damaged, they will be promptly replaced, at the direction of the Engineer at no additional cost to the City. Copies of all field notes and cut sheets shall be provided to the City at no additional cost to the City.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

5-1.08 INCREASED OR DECREASED QUANTITIES

The City reserves the right to make such alterations, deviations, additions to, or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated, without adjustment in the unit price as bid.

Attention is directed to Section 4-1.02, “Changes and Extra Work,” of these Special Provisions. Any such changes will be set forth in a contract change order, which will specify the work to be done in connection with the change made, adjustment of contract

time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the City Manager and / or City Council.

5-1.09 STOP NOTICE WITHHOLDS

Section 9-1.16E(4) “Stop Notice Withholds” of the Standard Specifications is amended to read as follows:

> "The City of Stockton, by and through the Department of Public Works, may at its option and at any time retain out of any amounts due the Contractor, sums sufficient to cover claims, filed pursuant to Section 3179 et seq. of the Code of Civil Procedures."

5-1.10 RIGHTS IN LAND

All work, equipment parking, or any other activity associated with the project shall be confined to the project limits within the street rights-of-way. The Contractor's use of any other property exclusively in connection with this project shall be by a written agreement between the property owner and the Contractor. A certified copy of any such agreement shall be furnished to the Engineer prior to the use of such property by the Contractor.

Full compensation for conforming to the provisions in this section shall be considered as included in prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

5-1.11 AS-BUILT/RECORD DRAWINGS

The Contractor shall maintain a complete set of drawings on-site for the purpose of keeping up to date all field modifications. This plan set shall be available for review by the project Inspector and the Engineer. These plans shall be provided to the Inspector after the completion of construction at the Post-Construction Meeting and prior to the final payment. All revisions, modifications, and/or changes shall be marked clearly. Notes and dimensions shall be in red and be clear and legible. These plans will be used by the Engineer to mark up the original plan sheets with the revisions made during construction.

A list shall be maintained of any trees removed during the course of construction by the Contractor or his Subcontractor, identifying the location, size, and species (common name). This list shall be submitted at the Post-Construction Meeting.

Full compensation for furnishing the As-Built/Record Drawings shall be considered included in the prices paid for the various bid items of work, and no additional compensation will be considered therefore.

5-1.12 NOTICE OF POTENTIAL CLAIM

The Contractor shall not be entitled to the payment of any additional compensation for any cause, or for the happening of any event, thing, or occurrence, including any act or failure to act, by the Engineer, unless he has given the Engineer due written notice of potential claim as hereinafter specified. However, compliance with this section shall not be a prerequisite for matters within the scope of the protest provisions under “Changes”

or “Time of Completion” or within the notice provisions in “Liquidated Damages”. The written notice of potential claim shall set forth the items and reasons which the Contractor believes to be eligible for additional compensation, the description of work, the nature of the additional costs and the total amount of the potential claim. If based on an act or failure to act by the Engineer, written notice for potential claim must be given to the Engineer prior to the Contractor commencing work. In all other cases, written notice for potential claims must be given to the Engineer within 15 days after the happening of the event, thing or occurrence giving rise to the potential claim.

It is the intention of this Section that potential differences between the parties of this Contract be brought to the attention of the Engineer at the earliest possible time so that appropriate action may be taken and settlement may be reached. The Contractor hereby agrees that he shall have no right to additional compensation for any claim that may be based on any act or failure to act by the Engineer or any event, thing or occurrence for which no written notice of potential claim was filed.

5-1.13 RECORDS

The Contractor shall maintain cost accounting records for the contract pertaining to, and in such a manner as to provide a clear distinction between, the following 6 categories of costs of work during the life of the contract:

A. Direct costs of contract item work.
B. Direct costs of changes in character in conformance with Sections 4-1.05B and 9-1.15, "Work-Character Changes," of the Caltrans Specifications.
C. Direct costs of extra work in conformance with Section 4-1.02, "Changes and Extra Work," of these Special Provisions.
D. Direct costs of work not required by the contract and performed for others.
E. Direct costs of work performed under a notice of potential claim in conformance with the provisions in Section 5-1.43, "Potential Claims and Dispute Resolution," of the Caltrans Specifications.
F. Indirect costs of overhead.

Cost accounting records shall include the information specified for daily extra work reports in Section 5-1.27, "Records," of the Caltrans Specifications. The requirements for furnishing the Engineer completed daily extra work reports shall only apply to work paid for on a force account basis.

The cost accounting records for the contract shall be maintained separately from other contracts, during the life of the contract, and for a period of not less than 3 years after the date of acceptance of the contract. If the Contractor intends to file claims against the Department, the Contractor shall keep the cost accounting records specified above until complete resolution of all claims has been reached.

5-1.14 NONCOMPLIANT AND UNAUTHORIZED WORK

Attention is directed to Section 5-1.30, "Noncompliant and Unauthorized Work," of Caltrans Specifications.

5-1.15 PROPERTY AND FACILITY PRESERVATION

Attention is directed to Section 5-1.36, "Property and Facility Preservation," of Caltrans Specifications and these Special Provisions. Due care shall be exercised to avoid injury to existing highway improvements or facilities, utility facilities, adjacent property, and roadside trees shrubs and other plants that are not to be removed. Roadside trees, shrubs and other plants that are not to be removed, and pole lines, fences, signs, markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and water lines, all highway facilities and any other improvements or facilities within or adjacent to the highway shall be protected from injury or damage, and if ordered by the Engineer, the Contractor shall provide and install suitable safeguards, approved by the Engineer, to protect the objects from injury or damage. If the objects are injured or damaged by reason of the Contractor's operations, the objects shall be replaced or restored at the Contractor's expense.

The facilities shall be replaced or restored to a condition as good as when the Contractor entered upon the work, or as good as required by the specifications accompanying the contract, if any of the objects are a part of the work being performed under the contract. The Engineer may make or cause to be made those temporary repairs that are necessary to restore to service any damaged highway facility. The cost of the repairs shall be borne by the Contractor and may be deducted from any moneys due or to become due to the Contractor under the contract. The fact that any underground facility is not shown upon the plans shall not relieve the Contractor of the responsibility under this Section of these Special Provisions. It shall be the Contractor's responsibility, pursuant thereto, to ascertain the location of those underground improvements or facilities which may be subject to damage by reason of the Contractor's operations.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in protecting or repairing property as specified in this Section shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed therefor.

5-1.16 PRE-CONSTRUCTION SURVEY

Attention is directed to Section 5-1.36D, “Survey Monuments” of the Caltrans Specifications and these Special Provisions. The Contractor shall perform a pre-construction survey of all existing structures, pavements, and other aboveground facilities within the project limits prior to beginning any work, noting their condition by means of photographs and video tapes supplemented by written documentation, where applicable.

Color photographs shall be taken with a digital camera at locations that are appropriate to show pre-existing conditions. Each photograph shall show the date and time the photograph was taken and clearly labeled showing the location, viewing direction, and any special features noted. Digital files of each photograph and a copy of videotapes shall be submitted to the Engineer.

Preserving and Perpetuating Survey Monuments

The contractor shall exercise due caution and shall carefully preserve bench marks,

control points, reference points and all survey monuments, and shall bear all expenses for replacement and/or error caused by his/her unnecessary loss or disturbance. The contractor shall consult with a licensed land surveyor or civil engineer licensed to practice land surveying in California prior to beginning construction to ensure that any preconstruction corner records, as required by the State of California Professional Land Surveyor' ACT have been filed with the County Surveyor, pursuant to Section 8771(a-f) of the California Business and Profession Code.

Action by:	Action:
Contractor's Land Surveyor	1. Identifies existing survey monuments. 2. Lists all existing survey monuments. 3. Ties out / performs construction staking of survey monuments. 4. Indicates survey monuments on construction plans.
	5. Files all pre-construction Corner Records or Records of Survey with San Joaquin County. The Corner Records or Record of Survey will show monuments within the area of construction reasonably subject to removal or disturbance not shown on a recent record document (recent record document is a filed survey map or corner record document completed with acceptable modern survey methods that includes survey ties from monuments within the construction area to monuments outside of the construction area). 6. Submits copies of pre-construction Corner Records or Records of Survey filed with San Joaquin County to City Engineer/Project Manager
Contractor	7. Preserves/perpetuates all survey monumentation during construction, including, but not limited to, those listed. 8. Restores survey monuments disturbed by construction.
Contractor's Land Surveyor,	9. Files all post-construction Corner Records and Records of Survey with San Joaquin County for all monuments disturbed during construction 10. Submits copies of Corner Records or Records of Survey filed with San Joaquin County to City Engineer/Project Manager.

Monuments set shall be sufficient in number and durability and efficiently placed so as not to be readily disturbed, to assure, together with monuments already existing, the perpetuation or facile reestablishment of any point or line of the survey.

When monuments exist that control the location of subdivisions, tracts, boundaries, roads, streets, or highways, or provide horizontal or vertical survey control, the monuments shall

be located and referenced by or under the direction of a licensed land surveyor or registered civil engineer prior to the time when any streets, highways, other rights-of-way, or easements are improved, constructed, reconstructed, maintained, resurfaced, or relocated, and a corner record or record of survey of the references shall be filed with the county surveyor. They shall be reset in the surface of the new construction, a suitable monument box placed thereon, or permanent witness monuments set to perpetuate their location if any monument could be destroyed, damaged, covered, or otherwise obliterated, and a corner record or record of survey filed with the county surveyor prior to the recording of a certificate of completion for the project. Sufficient controlling monuments shall be retained or replaced in their original positions to enable property, right-of-way and easement lines, property corners, and subdivision and tract boundaries to be reestablished without devious surveys necessarily originating on monuments differing from those that currently control the area. It shall be the responsibility of the governmental agency or others performing construction work to provide for the monumentation required by this section. It shall be the duty of every land surveyor or civil engineer to cooperate with the governmental agency in matters of maps, field notes, and other pertinent records. Monuments set to mark the limiting lines of highways, roads, streets or right-of-way or easement lines shall not be deemed adequate for this purpose unless specifically noted on the corner record or record of survey of the improvement works with direct ties in bearing or azimuth and distance between these and other monuments of record.

The decision to file either the required corner record or a record of survey pursuant to subdivision shall be at the election of the licensed land surveyor or registered civil engineer submitting the document.

Full compensation for pre-construction survey shall be included in the contract price for the various items of work involved, and no additional compensation will be allowed therefore.

5-1.17 COOPERATION

Should construction be under way by other forces or by other contractors within or adjacent to the limits of the work specified or should work of any other nature be under way by other forces within or adjacent to those limits, the Contractor shall cooperate with all the other contractors or other forces to the end that any delay or hindrance to their work will be avoided. The right is reserved to perform other or additional work at or near the site (including material sources) at any time, by the use of other forces. When 2 or more contractors are employed on related or adjacent work, or obtain materials from the same material source, as provided in Section 6, "Control of Materials" of the Caltrans Specifications, each shall conduct their operations in such a manner as not to cause any unnecessary delay or hindrance to the other. Each contractor shall be responsible to the other for all damage to work, to persons or property caused to the other by their operations, and for loss caused the other due to unnecessary delays or failure to finish the work within the time specified for completion.

The Contractor shall protect from damage any utility facilities that are to remain in place, be installed, relocated, adjusted, or otherwise rearranged.

The Contractor should note that the following utility companies and other agencies maintain facilities within the project area and may have forces in the project area or adjacent thereto:

- PG&E
- AT&T and other phone companies
- City of Stockton Municipal Utilities Department
- Comcast Cable Company
- California Water Service Company

The Contractor shall verify the horizontal and vertical locations of all existing utilities prior to start of construction. The Contractor shall be responsible for the repair and replacement of these or any other facilities damaged during construction. A minimum of forty-eight (48) hours or two (2) working days prior to beginning construction, the Contractor shall notify Underground Services Alert (USA), telephone (800) 227-2600, to have existing facilities marked in the field.

Installation and/or relocation of the aforementioned utilities and other agencies' facilities will require coordination with the Contractor's operations. The Contractor shall be responsible for contacting, scheduling, and coordinating with all utility companies and other agencies whose facilities will be affected by the project.

The Contractor shall take care to avoid working in any area of the project, which may conflict with the work underway by the utility companies. The Contractor's construction schedule shall be prepared to avoid utility work.

The Contractor shall cooperate completely with all utility companies having facilities within the project area.

Attention is directed to the possible existence of underground facilities not known to the City or in a location different from that which is shown on the plans or in these Special Provisions. The Contractor shall take steps to ascertain the exact location of all underground facilities prior to doing work that may damage such facilities or interfere with their service.

Payment for complying with this Special Provision shall be included in the various items of work, and no additional compensation will be allowed therefore.

SECTION 6 – CONTROL OF MATERIALS

Attention is directed to the provisions in Section 6, "Control of Materials," of the Standard Specifications, and these Special Provisions.

6-1.01 BUY AMERICA REQUIREMENTS

Attention is directed to the "Buy America" requirements of the Surface Transportation Assistance Act of 1982 (Section 165) and the regulations adopted pursuant thereto.

Furnish steel and iron materials to be incorporated into the work with certificates of compliance. Steel and iron materials must be produced in the U.S. except:

1. Foreign pig iron and processed, pelletized, and reduced iron ore may be used in the domestic production of the steel and iron materials [60 Fed Reg 15478 (03/24/1995)];

2. If the total combined cost of the materials does not exceed the greater of 0.1 percent of the total bid or $2,500, materials produced outside the U.S. may be used.

Production includes:

1. Processing steel and iron materials, including smelting or other processes that alter the physical form or shape (such as rolling, extruding, machining, bending, grinding, and drilling) or chemical composition;

2. Coating application, including epoxy coating, galvanizing, and painting, that protects or enhances the value of steel and iron materials.

6-1.02 QUALITY ASSURANCE PROGRAM

Refer to Instruction to Bidders.

6-1.03 TESTING

Testing of materials and work shall conform to the provisions in Section 6, "Control of Materials" of the Caltrans Specifications and these special provisions. Whenever the provisions of Section 6 of the Caltrans Specifications refer to tests or testing, it shall mean tests to assure the quality and to determine the acceptability of the materials and work. Contractor's attention is directed to the City's Quality Assurance Program in Instructions to Bidder Package.

The Engineer will deduct the costs for testing of materials and work found to be unacceptable, as determined by the tests performed by the Department and the costs for testing of material sources identified by the Contractor which are not used for the work, from moneys due or to become due to the Contractor. The amount deducted will be determined by the engineer.

6-1.04 PRE-QUALIFIED AND TESTED SIGNING AND DELINEATION MATERIAL

The California Department of Transportation maintains the list of Prequalified and Tested signing and delineation materials and products. Approval of pre-qualified and tested products and materials shall not preclude the Engineer from sampling and testing any of the signing and delineation materials or products at any time.

None of the listed signing and delineation materials and products shall be used in the work unless such material or product is listed on the California Department of Transportation's List of Approved Traffic Products. A Certificate of Compliance shall be

furnished as specified in Section 6, "Control of Materials", of the Caltrans Specifications for signing and delineation materials and products. Said certificate shall also certify that the signing and delineation material or product conforms to the pre-qualified testing and approval of the California Department of Transportation, Division of Traffic Operations, and was manufactured in accordance with the approved quality control program.

For those categories of materials included on the list of Prequalified and Tested Signing and Delineation Materials, only those products shown within the listing may be used in the work. Other categories of products, not included on the list of Prequalified and Tested Signing and Delineation Materials, may be used in the work provided they conform to the requirements of the Standard Specifications.

Materials and products will be considered for addition to said approved pre-qualified and tested list if the manufacturer of the material or product submits to the Division of Traffic Operations of the California Department of Transportation a sample of the material or product. The sample shall be sufficient to permit performance of all required tests. Approval of such materials or products will be dependent upon a determination as to compliance with the Specifications and any test the California Department of Transportation may elect to perform. The list of approved pre-qualified and tested signing and delineation materials and products can be found at the California Department of Transportation Web Site:

https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/mets/signing-and-delineation-materials-a11y.pdf

SECTION 7 – LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC

7-1.01 GENERAL

Attention is directed to Section 7 “Legal Relations and Responsibility to the Public” of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

7-1.02 MAINTAINING PUBLIC CONVENIENCE AND SAFETY

Attention is directed to Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety", and Section 12, "Temporary Traffic Control", of the Caltrans Specifications. Attention is also directed to Part 6 of the California MUTCD and Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety", of Standard Specifications, and Section 12-1.01, “Maintaining Traffic” of these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in said sections and Part 6 of the California MUTCD.

7-1.03 TRENCH SAFETY

Attention is directed to Sections 7-1.02K(6)(b), "Excavation Safety” of the Standard Specifications and these Special Provisions.

If required, the Contractor shall furnish all labor, equipment, and materials required to design, construct, and remove all shoring, lagging, cribbing, piling, and/or other types of support for the wall of any open excavation required for the construction of this project.

In making excavations for the project, the Contractor shall be fully responsible for providing and installing adequate sheeting, shoring, and bracing, as may be necessary as a precaution against slides or cave-ins and to fully protect all existing improvements of any kind from damage.

Any open trench must be protected & flagged from the public at the end of each day.

The Contractor shall place steel plates over all open trenches or excavations. All trench plating shall be placed to comply with ADA accessibility requirements.

The Contractor shall be solely responsible for any damages which may result from his failure to provide adequate shoring to support the excavations under any or all of the conditions of loading which may exist or which may arise during the construction project. Nothing herein shall be deemed to allow the use of shoring, sloping, or protective system less effective than that required by the Construction Safety Orders of the Division of Industrial Safety.

Full compensation for conforming to the provisions in this section shall be included in the prices paid for various bid items, and no additional compensation will be made therefore.

7-1.04 PUBLIC CONVENIENCE

Contractor's attention is directed to the Section 12-1.01 “Maintaining Traffic” of these Special Provisions, Section 7-1.03 “Public Convenience” of the Standard Specifications, and these Special Provisions.

The Contractor shall notify San Joaquin Regional Transit District (SJRTD) a minimum of five (5) working days prior to beginning work. The Contractor shall coordinate with SJRTD if any bus stops and bus routes are affected.

The Contractor shall inform the City Fire Department, City Police Department, City Traffic Department, Municipal Utilities Department (MUD), and all affected utilities no later than three (3) working days before work is to begin.

The Contractor shall provide the City with the name and telephone number (business, home and mobile) of three (3) representatives available at all times during the duration of the contract. Said names and telephone numbers shall be provided to the City of Stockton Public Works, Fire, and Police Departments.

The Contractor shall circulate printed form letters, approved by the Engineer, explaining the project to be done and the length of time inconvenience will be caused by the project and deliver same to the residents and businesses to be affected at least three (3) working days before work is to commence on their street. In addition, the Contractor shall provide

temporary "No Parking" signs posted three (3) working days in advance of the work. Such signs shall be placed no further than fifty (50) feet apart. The additional "No Parking" signs shall be removed upon completion of the work and the opening of the street to traffic. It shall be the Contractor's responsibility to remove any vehicles obstructing his operations.

Full compensation for conforming to the provisions in this section shall be included in the prices paid for various bid items, and no additional compensation will be made therefore.

7-1.05 PUBLIC SAFETY

Contractor's attention is directed to the Section 12-1.01 “Maintaining Traffic” of these Special Provisions, Section 7-1.04 “Public Safety” of the Standard Specifications, and these Special Provisions. Nothing in the specifications voids the contractor’s public safety responsibilities.

All safety devices, their maintenance, and use shall conform to the latest requirements of OSHA and shall conform to the applicable provisions of the Part 6 "Temporary Traffic Control"**,** of the **California MUTCD**. It shall be the complete responsibility of the Contractor to protect persons from injury and to avoid property damage. Adequate barricades, construction signs, flashers, and other such safety devices, as required, shall be placed and maintained during the progress of the construction work, until the project is completed. Whenever required, flaggers shall be provided to control traffic.

The Contractor shall provide for the proper routing of vehicles and pedestrian traffic in a manner that will hold congestion and delay of such traffic to practicable minimum by furnishing, installing, and maintaining all necessary temporary signs, barricades, and other devices and facilities, as approved by the City Traffic Engineer. As the work progresses, the Contractor shall relocate, subject to the City Traffic Engineer's approval, such devices and facilities as necessary to maintain proper routing. The Contractor shall notify the City Traffic Engineer a minimum of three (3) working days prior to the relocation of any traffic control devices.

When work is not in progress on a trench or other excavation that requires closure of an adjacent lane, the traffic cones or portable delineators used for the lane closure shall be placed off of and adjacent to the edge of the traveled way. The spacing of the cones or delineators shall be not more than the spacing used for the lane closure.

Full compensation for furnishing, installing, moving, and removing of all necessary traffic control devices including, but not limited to, signing, striping, barricades, and flagging shall be included in the bid item for "Traffic Control System", as shown on the bid schedule, and no additional compensation will be allowed therefor.

7-1.06 INDEMNIFICATION AND INSURANCE

Attention is directed to Section 7-1.05 “Indemnification” and Section 7-1.06, “Insurance” of the Standard Specifications, and Instruction to Bidders for this project.

Indemnification and Insurance shall conform to an Exhibit, which is attached to this project

bid package and incorporated by this reference.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

7-1.07 LEAD COMPLIANCE PLAN

Attention is directed to Section 7-1.02K(6)(j)(ii) “Lead Compliance Plan, of the Caltrans Specifications.

A lead compliance plan for worker health and safety must be prepared by a Certified Industrial Hygienist (CIH) and must be submitted and implemented prior to the start of construction activities. This plan is needed in order to comply with California Occupational Safety and Health Administration (Cal OSHA) regulations addressing aerially deposited lead for projects involving soil disturbance, and to minimize worker exposure to lead chromate or lead while handling paint and thermoplastic residue.

Allow 7 days for the Engineer’s review. Obtain authorization for the plan before starting any activity that presents the potential for lead exposure.

The plan shall include items listed in 8 CA of Regs § 1532.1(e)(2)(B). Obtain authorization for the plan before starting any activity that presents the potential for lead exposure. Contractor shall provide a safety training program to employees who have no prior training, including City employees. The safety training program shall comply with 8 CA Code of Regs § 1532.1 and the provided lead compliance plan. Contractor shall submit copies of air monitoring or job site inspection reports made by or under the direction of the CIH under 8 CA Code of Regs § 1532.1 within 10 days after the date of monitoring or inspection.

Supply personal protective equipment, training, and washing facilities required by your lead compliance plan for five City employees.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

SECTION 8 – PROSECUTION AND PROGRESS

Attention is directed to the provisions in Section 8 of the Standard Specifications, and these Special Provisions.

8-1.01 TIME OF COMPLETION

Attention is directed to the provisions in Sections 8-1.05, "Time", and 8-1.07, “Delay” of the Standard Specifications, and these Special Provisions.

The contract for the performance of the work and the furnishing of materials shall commence within ten (10) days from the Notice to Proceed date and shall be diligently

prosecuted to completion before the expiration of the working days specified in this section from the date of said commencement.

Submittals shall be delivered to the Engineer within fifteen (15) calendar days of execution of contract. The contractor shall not start any work on the job site until the Engineer approves the submittals. Refer to section 5-1.04, “Submittals” of these Special Provisions. The Contractor shall only enter the jobsite prior to approval of the above submittals for purposes of measuring field dimensions and locating utilities.

The Contractor shall diligently prosecute the contract work to completion within two hundred (200) working days. The days to finish the punch list, provided by the City, are included in the Original Working Days.

Notice to Proceed will not be issued until all complete submittals have been reviewed at least once. Correction indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the contract requirements. The Engineer’s review of Contractor Shop Drawing submittals shall not relieve the contractor of the entire responsibility for the correctness of details and dimensions. The Contractor shall assume all responsibility and risk for any misfits due to error in Contractor submittals. The Contractor shall be responsible for the dimension and the design of adequate connections and details.

Should the Contractor choose to work on a Saturday, Sunday, or on a holiday recognized by the labor unions, the Contractor shall reimburse the City of Stockton the actual cost of engineering, inspection, testing, superintendent, and/or other overhead expenses, which are directly chargeable to the contract. The approximate cost is $100 per hour. Should such work be undertaken at the request of the City, reimbursement will not be required.

Full compensation for conforming to the provisions in this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed, therefore.

8-1.02 LIQUIDATED DAMAGES

Attention is directed to the provisions in Section 8-1.10, "Liquidated Damages", of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

The Contractor shall pay liquidated damages to the City of Stockton in the amount of $6,800 (sixty eight hundred dollars) per day for each and every calendar day that the work, with the exception of the maintenance period, remains incomplete after the expiration of the contract working days specified in these Special Provisions.

Full compensation for any costs required to comply with the provisions in this section shall be considered to be included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

8-1.03 PROGRESS SCHEDULE

GENERAL

Summary

Comply with Section 8-1.02, “Schedule," of the Caltrans Specifications, except you must:

1. Use Microsoft Project.

The Contractor is responsible for assuring that all activity sequences are logical and that each schedule shows a coordinated plan for complete performance of the work.

Definitions

Contract completion date: The current extended date for completion of the contract shown on the weekly statement of working days furnished by the Engineer as specified in Section 8-1.05, "Time," of the Caltrans Specifications.

Data date: The day after the date through which a schedule is current. Everything occurring earlier than the data date is "as-built" and everything on or after the data date is "planned."

Float: The difference between the earliest and latest allowable start or finish times for an activity.

Milestone: An event activity that has zero duration and is typically used to represent the beginning or end of a certain stage of the project.

Near critical path: A chain of activities with total float exceeding that of the critical path but having no more than 10 working days of total float.

Time-scaled network diagram: A graphic depiction of a Critical Path Method (CPM) schedule comprised of activity bars with relationships for each activity represented by arrows. The tail of each arrow connects to the activity bar for the predecessor and points to the successor.

Total float: The amount of time that an activity or chain of activities can be delayed before extending the scheduled completion date.

Submittals

General Requirements

Submit to the Engineer baseline, monthly updated, and final updated schedules, each consistent in all respects with the time and order of work requirements of the contract. Perform work in the sequence indicated on the current accepted schedule.

Each schedule must show:

1. Calculations using critical path method to determine controlling activities.
2. Duration activities less than 20 working days.
3. Each required constraint. Constraints other than those required by the special provisions may be included only if authorized.

The Engineer's review and acceptance of schedules does not waive any contract requirements and does not relieve the Contractor of any obligation or responsibility for submitting complete and accurate information. Correct rejected schedules and resubmit them within 7 days of notification by the Engineer, at which time a new review period of 7 days will begin.

Errors or omissions on schedules do not relieve the Contractor from finishing all work within the time limit specified for completion of the contract. If, after a schedule has been accepted by the Engineer, either you or the Engineer discovers that any aspect of the schedule has an error or omission, the Contractor must correct it on the next updated schedule.

Baseline Schedule

Submit to the Engineer a baseline schedule within 20 days of approval of the contract. Allow 20 days for the Engineer's review after the baseline schedule and all support data are submitted. Beginning the week the baseline schedule is first submitted, meet with the Engineer weekly to discuss and resolve schedule issues until the baseline schedule is accepted. The baseline schedule must include the entire scope of work and must show how the Contractor is plans to complete all work contemplated. Multiple critical paths and near-critical paths must be kept to a minimum. A total of not more than 50 percent of the baseline schedule activities must be critical or near critical, unless otherwise authorized by the Engineer. The baseline schedule must not extend beyond the number of working days originally provided in these special provisions.

Updated Schedule

Submit an updated schedule and meet with the Engineer to review contract progress on or before the 1st day of each month, beginning one month after the baseline schedule is accepted. Allow 15 days for the Engineer's review after the updated schedule and all support data are submitted, except that the review period will not start until any previous month's required schedule is accepted. Updated schedules that are not accepted or rejected within the review period are considered accepted by the Engineer.
The updated schedule must show:

1. Data date of the 21st day of the month or other date established by the Engineer
2. Changes from approved revised schedules

Final Updated Schedule

Submit a final updated schedule with actual start and finish dates for the activities within 30 days after completion of contract work. Provide a written certificate with this submittal signed by the Contractor’s project manager or an officer of the company stating, "To my knowledge and belief, the enclosed final updated schedule reflects the actual start and finish dates of the actual activities for the project contained herein." An officer of the company may delegate in writing the authority to sign the certificate to a responsible manager.

8-1.04 FEDERAL LOBBYING RESTRICTIONS

Refer to Instructions to Bidders.

8-1.05 PRE-CONSTRUCTION MEETING

The City of Stockton Public Works Department will schedule a pre-construction meeting with the Contractor following award of the contract and prior to commencing work (Contact 209-937-8299). The City will issue the Notice to Proceed following execution of the Contract. This meeting will be held in the City of Stockton, Public Works Department.

8-1.06 POST-CONSTRUCTION MEETING

The Contractor shall attend a post-construction meeting that will be arranged by the Public Works Department (Contact 209-937-8299) after completion of work and prior to acceptance and final payment. The project Design Engineer and the project Inspector will also attend this meeting. The purpose of the meeting will be to discuss the project and any related issues that can help improve future Public Works construction projects. This meeting will be held in the City of Stockton, Public Works Department.

SECTION 9 – PAYMENT

All measurements and payments for this work shall conform to all applicable provisions on Section 9,"Measurement and Payment" of the Standard Specifications, Instructions to Bidders, and these special provisions.

No partial payment will be made for any materials that are furnished on hand, but not yet installed or incorporated in the work. The work to be performed consists of furnishing all labor, materials, tools, transportation, supplies, equipment, appurtenances, fuel, and power, unless specifically excepted, necessary, or required to install all work as may be necessary as indicated on the plans, in the specifications, and as required by the Engineer.

Upon completion of all of the work included herein, including approved contract change orders as appropriate, the Contractor may request that the Engineer file a Notice of Completion for the purposes of relief of maintenance and release of retention.

All materials designated to be removed shall become the property of the Contractor, unless otherwise noted, and shall be disposed in accordance with local, State, and Federal laws and ordinances.

Full compensation for disposal of materials and performing the work in these Special Provisions shall be included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

9-1.01 SCHEDULE OF VALUES

Submit a schedule of values within 15 days after Contract approval. Value schedules for each lump sum bid item shall be prepared and submitted to the Engineer as set forth in Section 9-1, "Lump Sum Contracts", of the Standard Specifications and Section 9-1.16B, "Schedule of Values," of the Caltrans Specifications. Unless otherwise approved by the

Engineer, materials on hand, but not incorporated into the work, shall not be included for measurement or for purposes of payment.

9-1.02 DESCRIPTION OF WORK

The work to be performed consists of furnishing all labor, materials, tools, transportation, supplies, equipment, appurtenances, fuel, and power, unless specifically excepted, necessary, or required to install concrete sidewalk, curb and gutter, wheel chair ramps, pavement improvements, sanitary sewer improvements, and signage and striping improvements, as further delineated on the plans and described in these Special Provisions.

PHASE 1

CALIFORNIA STREET, FROM MINER AVENUE TO ALPINE AVENUE

The work shall include, but not be limited to, the following:

1. Mobilization / General Conditions
   By lump sum. All costs connected with mobilization and general conditions of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
2. Traffic Control Detours and Access
   By lump sum. Includes designing, providing, erecting and maintaining traffic control and signage as indicated on the plans, described in Section 12 of the Caltrans Standard Specifications, and described the California MUTCD and these Special Provisions. Also includes performing all the work related to safe management of pedestrian, bicycle and vehicular traffic during construction of the project, including Traffic Control Plans and flaggers.
3. Stormwater Pollution BMP's
   By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.
4. Construction Staking and Monument Preservation
   By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades and monument preservation as specified in these Special Provisions and Standard Specifications.
5. Clearing and Grubbing
   By lump sum. All costs connected with clearing and grubbing, including street sweeping, as described in Section 17-2 of the Caltrans Specifications, and described in these Special Provisions, will be paid for at the Contract price.

6. Remove Existing Roadside Sign
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing roadside sign as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

7. Remove Existing Curb and Gutter
   By linear foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing curb and gutter, including sawcutting, excavating, off-haul, stones, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

8. Remove Existing Sidewalk
   By square foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing sidewalk, including sawcutting, excavating, off-haul, stones, existing driveways, including steel plates, accessible ramps, truncated domes, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

9. Remove And Reinstall Under Sidewalk Drain
   By the unit. Under sidewalk drain, where shown or noted on the Plans to be constructed, shall be constructed in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

10. Remove Existing Pavement
    By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement, including sawcutting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

11. Remove Existing Storm Drain Inlet
    By the unit. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing storm drain inlet, including sawcutting, excavating, and off-haul, described in Section 15 of the Caltrans Specifications, and described in these Special Provisions.

12. Remove Existing Storm Drain Pipe
    By the linear foot. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing storm drain pipe, including sawcutting, excavating, off-haul, and plugging of existing maintenance holes, described in Section 15 of the Caltrans Specifications, and described in these Special Provisions.

13. Remove Existing Striping
    By lump sum. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing striping, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

14. Remove Existing Pavement Markings
    By lump sum. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing pavement markings, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

15. Remove Existing Rectangular Rapid Flashing Beacon Assembly
    By lump sum. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing rectangular rapid flashing beacon assembly, including signage and in-pavement crosswalk lighting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

16. Roadway Excavation and Subgrade Preparation
    By the cubic yard. Includes sawcutting, excavating, and removing waste materials from the site, and subgrade preparation, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

17. Rough Grading
    By the square foot. Includes rough grading of site, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

18. Accessible Ramp
    By the unit. Includes providing and placing and compacting aggregate base and concrete, including all grading necessary for installation of accessible ramps, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, installing truncated domes, and for doing all the work involved in furnishing and placing accessible ramps, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

19. Concrete Sidewalk
    By the square foot. Includes providing and placing and compacting aggregate base and concrete sidewalks, including all grading necessary for installation of concrete sidewalk, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase,

backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

20. Concrete Driveway
    By the square foot. Includes providing and placing and compacting aggregate base and concrete driveways, including all grading necessary for installation of concrete driveway, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete driveways, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

21. Concrete Curb and Gutter
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb and gutter, as well as roll curb to vertical curb transitions as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

22. Curb Paint (Red)
    By the linear foot. Includes cleaning surface, providing and painting curbs and installing marker at the locations indicated on the Plans, described in Section 84-2.02C, “Paint,” of the Caltrans Specifications, and described in these Special Provisions.

23. 12" Storm Drain Pipe
    By the linear foot. Plastic pipe (12” diameter) shall conform to the provisions in Section 64, " Plastic Pipe," of the Caltrans Specifications and these special provisions. Includes initial backfill, trench backfill (AB or slurry), concrete collars, trench paving, and connections at maintenance holes, complete in place, as indicated on the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

24. Type 2 Curb Inlet Catch Basin
    By the unit. Type 2 Curb Inlet Catch Basins shown on the plans include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for installing new catch basins, including all inlets, concrete, initial backfill, trench backfill (AB or slurry), concrete collars, and trench paving, in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

25. 1.5” Grind

    By the square foot. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in grinding existing pavement, including off-haul and street sweeping, as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

26. 1.5” Overlay

    By the ton. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and placing asphalt binder, supplying, preparing, placing, and compacting asphalt concrete and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

27. Crack Seal

    By the square foot. Includes furnishing all labor, materials, tools, equipment and incidentals for all the work involved in, but not limited to, crack seal, and constructing to the locations as indicated on the plans and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

28. Slurry Seal

    By the square foot. Includes furnishing all labor, materials, tools, equipment and incidentals for all the work involved in, but not limited to, sweeping, mixing and spreading of slurry seal, and constructing to the locations as indicated on the plans and described in these Special Provisions.

29. 8.0” Asphalt Deeplift

    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

30. 12.0” Asphalt Deeplift

    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

31. 4" Thermoplastic - White (Details 27B and 27M)

    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

32. 4” Thermoplastic – White (Bike Buffer Hatch Striping)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

33. 6” Thermoplastic – White (Details 9, 39, and 39A)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

34. 8” Thermoplastic – White (Details 37B and 38)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

35. 12” Thermoplastic - White
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

36. 24” Thermoplastic - White
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

37. 4” Thermoplastic – Yellow (Details 22, 25A, 29, 32)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

38. 12” Thermoplastic - Yellow
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

39. 24” Thermoplastic - Yellow
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

40. Thermoplastic Pavement Markings – White
    By the square foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

41. Thermoplastic Pavement Markings – Green
    By the square foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

42. Heavy Duty Channelizer
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans for Heavy Duty Channelizers and described in these Special Provisions.

43. Roadside Sign
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans for new signs, described in Section 56 of the Caltrans Standard Specifications, and described in these Special Provisions.

44. Project Sign
    By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for installation of project funding sign as indicated on the Plans and described in these Special Provisions

45. Crosswalk Signs, RRFB, Push Button and Assembly
    By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for construction of crosswalk sign, RRFB, Push Button and Assembly as indicated on the Plans and described in these Special Provisions.

46. Traffic Signal Modification: Miner Avenue
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Miner Avenue as indicated on the Plans and described in these Special Provisions.

47. Traffic Signal Modification: Oak Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Oak Street as indicated on the Plans and described in these Special Provisions.

48. Traffic Signal Modification: Park Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Park Street as indicated on the Plans and described in these Special Provisions.
49. Traffic Signal Modification: Magnolia Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Magnolia Street as indicated on the Plans and described in these Special Provisions.
50. Traffic Signal Modification: Harding Way
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Harding Way as indicated on the Plans and described in these Special Provisions.
51. Traffic Signal Modification: Walnut Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Walnut Street as indicated on the Plans and described in these Special Provisions.
52. Traffic Signal Modification: McCloud Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at McCloud Street as indicated on the Plans and described in these Special Provisions.
53. Traffic Signal Modification: Alpine Avenue
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Alpine Avenue as indicated on the Plans and described in these Special Provisions.

PHASE 2

EIGHTH STREET, FROM EL DORADO STREET TO CALIFORNIA STREET, AND CALIFORNIA STREET, FROM EIGHTH STREET TO SOUTHERLY OF MINER AVENUE

The work shall include, but not be limited to, the following:

1. Mobilization / General Conditions
   By lump sum. All costs connected with mobilization and general conditions of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
2. Traffic Control Detours and Access
   By lump sum. Includes designing, providing, erecting and maintaining traffic control and signage as indicated on the plans, described in Section 12 of the Caltrans Standard Specifications, and described the California MUTCD and these Special Provisions. Also includes performing all the work related to safe management of pedestrian, bicycle and vehicular traffic during construction of the project, including Traffic Control Plans and flaggers.

3. Stormwater Pollution BMP's
   By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.

4. Construction Staking and Monument Preservation
   By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades and monument preservation as specified in these Special Provisions and Standard Specifications.

5. Clearing and Grubbing
   By lump sum. All costs connected with clearing and grubbing, including street sweeping, as described in Section 17-2 of the Caltrans Specifications, and described in these Special Provisions, will be paid for at the Contract price.

6. Remove Existing Tree
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing tree as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

7. Remove Existing Bollard
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing bollard as indicated on the Plans, described in Section 15 of the Caltrans Specifications, and described in these Special Provisions.

8. Remove Existing Roadside Sign
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing roadside sign as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

9. Remove Existing Curb and Gutter
   By linear foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing curb and gutter, including sawcutting, excavating, off-haul, stones, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

10. Remove Existing Sidewalk
    By square foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing sidewalk, including sawcutting, excavating, off-haul, stones, existing driveways, including steel plates, accessible ramps, truncated domes, base and debris, loading and removing waste

materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

11. Remove Existing Sanitary Sewer Pipe
    By the linear foot. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing sanitary sewer pipe, including sawcutting, excavating, off-haul, and plugging of existing maintenance holes, described in Section 15 of the Caltrans Specifications, and described in these Special Provisions.

12. Reconnect Under Sidewalk Drain
    By the unit. Under sidewalk drain, where shown or noted on the Plans to be reconnected, shall be reconnected in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

13. Remove And Reinstall Under Sidewalk Drain
    By the unit. Under sidewalk drain, where shown or noted on the Plans to be constructed, shall be constructed in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

14. Remove Existing Pavement
    By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement, including sawcutting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

15. Remove Existing Striping
    By lump sum. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing striping, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

16. Remove Existing Pavement Markings
    By lump sum. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing pavement markings, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

17. Adjust Traffic Signal Pole
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust traffic signal pole, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

18. Adjust Utility Box/Vault (Electric, Street Light, Traffic Signal)
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust utility box/vault (electric, street light, traffic signal), described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

19. Adjust Street Light
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust street light, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

20. Adjust Storm Drain Inlet
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust storm drain inlet, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

21. Adjust Cleanout
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust cleanout, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

22. Adjust Utility Maintenance Hole
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust utility maintenance hole, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

23. Roadway Excavation and Subgrade Preparation
    By the cubic yard. Includes sawcutting, excavating, and removing waste materials from the site, and subgrade preparation, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

24. Rough Grading
    By the square foot. Includes rough grading of site, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

25. Truncated Domes
    By the square foot. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials for truncated domes, not associated with new accessible ramps, complete in place, as indicated on the drawings, described in the 2019 CBC Chapter 11B-705.1 and these Special Provisions.

26. Accessible Ramp
    By the unit. Includes providing and placing and compacting aggregate base and concrete, including all grading necessary for installation of accessible ramps, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, installing truncated domes, and for doing all the work involved in furnishing and placing accessible ramps, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as

indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

27. Concrete Sidewalk
    By the square foot. Includes providing and placing and compacting aggregate base and concrete sidewalks, including all grading necessary for installation of concrete sidewalk, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

28. Concrete Driveway
    By the square foot. Includes providing and placing and compacting aggregate base and concrete driveways, including all grading necessary for installation of concrete driveway, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete driveways, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

29. Concrete Curb
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

30. Concrete Curb and Gutter
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb and gutter, as well as roll curb to vertical curb transitions as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

31. Curb Paint (Red)
    By the linear foot. Includes cleaning surface, providing and painting curbs and installing marker at the locations indicated on the Plans, described in Section 84-2.02C, “Paint,” of the Caltrans Specifications, and described in these Special Provisions.

32. Curb Paint (White, Yellow, Green)
    By the linear foot. Includes cleaning surface, providing and painting curbs and

installing marker at the locations indicated on the Plans, described in Section 84-2.02C, “Paint,” of the Caltrans Specifications, and described in these Special Provisions.

33. 1.5” Grind
    By the square foot. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in grinding existing pavement, including off-haul and street sweeping, as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

34. 1.5” Overlay
    By the ton. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and placing asphalt binder, supplying, preparing, placing, and compacting asphalt concrete and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

35. Crack Seal
    By the square foot. Includes furnishing all labor, materials, tools, equipment and incidentals for all the work involved in, but not limited to, crack seal, and constructing to the locations as indicated on the plans and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

36. Slurry Seal
    By the square foot. Includes furnishing all labor, materials, tools, equipment and incidentals for all the work involved in, but not limited to, sweeping, mixing and spreading of slurry seal, and constructing to the locations as indicated on the plans and described in these Special Provisions.

37. 8.0” Asphalt Deeplift
    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

38. 12.0” Asphalt Deeplift
    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Specifications, and described in these Special Provisions.

39. 8” Sanitary Sewer Pipe
    By the linear foot. Plastic pipe (8” diameter) shall conform to the provisions in Section 64, " Plastic Pipe," of the Caltrans Standard Specifications and these special provisions. Includes initial backfill, trench backfill (AB or slurry), concrete,

trench paving, and connections at maintenance holes, complete in place, as indicated on the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

40. Sanitary Sewer Lateral Replacement
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for completing the work involved in providing sanitary sewer lateral reconnections, complete in place, including sawcutting, initial backfill, trench backfill (AB or slurry), and trench paving, in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

41. Sanitary Sewer Cleanout
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for completing the work involved in providing sanitary sewer cleanouts, complete in place, including sawcutting, initial backfill, trench backfill (AB or slurry), and trench paving, in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

42. 4” Thermoplastic – White (Details 9 and 27B)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

43. 4” Thermoplastic – White (Bike Buffer Hatch Striping)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

44. 6” Thermoplastic – White (Details 39 and 39A)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

45. 8” Thermoplastic – White (Details 37B and 38)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

46. 12” Thermoplastic – White
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to

the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

47. 24” Thermoplastic - White
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

48. 4” Thermoplastic – Yellow (Details 22, 25A, 29, 32)
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

49. 12” Thermoplastic - Yellow
    By the linear foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

50. Thermoplastic Pavement Markings – White
    By the square foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

51. Thermoplastic Pavement Markings – Green
    By the square foot. All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized and shall conform to these Special Provisions, Section 84 “Markings”.

52. Heavy Duty Channelizer
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans for Heavy Duty Channelizers and described in these Special Provisions.

53. Roadside Sign
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans for new signs, described in Section 56 of the Caltrans Standard Specifications, and described in these Special Provisions.

54. Project Sign
    By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for installation of project funding sign as indicated on the Plans and described in these Special Provisions.

55. Traffic Signal Modification: Fourth Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Fourth Street as indicated on the Plans and described in these Special Provisions.

56. Traffic Signal Modification: Dr. Martin Luther King, Jr. Boulevard
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Dr. Martin Luther King, Jr. Boulevard as indicated on the Plans and described in these Special Provisions.

57. Traffic Signal Modification: Lafayette Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Lafayette Street as indicated on the Plans and described in these Special Provisions.

58. Traffic Signal Modification: Washington Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Washington Street as indicated on the Plans and described in these Special Provisions.

59. Traffic Signal Modification: Main Street
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Main Street as indicated on the Plans and described in these Special Provisions.

60. Traffic Signal Modification: Weber Avenue
    By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Traffic Signal Modification at Weber Avenue as indicated on the Plans and described in these Special Provisions.

61. Street Light and Foundation
    By the unit. Includes full compensation for furnishing all labor, tools, poles, foundation, conduits, wiring, Photocells, shunt caps luminaires, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans to furnish and install street lights and foundations, described in Section 86 of the Caltrans Standard Specifications, and described in these Special Provisions.

62. Street Light Conduit and Conductors
    By the linear foot. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans to furnish and install street light conduits and conductors, described in Section 86 of the Caltrans Standard Specifications, and described in these Special Provisions.

63. Street Light Pull Box
    By the unit. Includes full compensation for furnishing all labor, tools, equipment

and incidentals for furnishing the materials, complete in place, as indicated on the Plans to furnish and install street light pull boxes, described in Section 86 of the Caltrans Standard Specifications, and described in these Special Provisions.

64. Street Light Service Connection
By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans to provide a street light service connection, described in Section 86 of the Caltrans Standard Specifications, and described in these Special Provisions.

ALTERNATE AA1

ACCESSIBLE RAMPS AND DRIVEWAYS REMOVED FROM BASE BID

1. Mobilization / General Conditions
By lump sum. All costs connected with mobilization and general conditions of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
2. Stormwater Pollution BMP's
By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.
3. Construction Staking and Monument Preservation
By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades and monument preservation as specified in these Special Provisions and Standard Specifications.
4. Remove Existing Tree
By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing tree as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
5. Remove Existing Roadside Sign
By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing roadside sign as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.
6. Remove Existing Curb and Gutter
By linear foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing curb and gutter, including sawcutting, excavating, off-haul, stones, base and debris, loading and

removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

7. Remove Existing Sidewalk
   By square foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing sidewalk, including sawcutting, excavating, off-haul, stones, existing driveways, including steel plates, accessible ramps, truncated domes, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

8. Remove Existing Storm Drain Inlet
   By the unit. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing storm drain inlet, including sawcutting, excavating, and off-haul, described in Section 15 of the Caltrans Specifications, and described in these Special Provisions.

9. Remove Existing Storm Drain Pipe
   By the linear foot. Includes providing all labor, materials, tools, equipment, and incidentals as indicated on the Plans to remove and dispose of existing storm drain pipe, including sawcutting, excavating, off-haul, and plugging of existing maintenance holes, described in Section 15 of the Caltrans Specifications, and described in these Special Provisions.

10. Remove And Reinstall Under Sidewalk Drain
    By the unit. Under sidewalk drain, where shown or noted on the Plans to be constructed, shall be constructed in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

11. Remove Existing Pavement
    By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement, including sawcutting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

12. Adjust Traffic Signal Pole
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust traffic signal pole, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

13. Adjust Utility Box/Vault (Electric, Street Light, Traffic Signal)
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust utility box/vault (electric, street light, traffic signal), described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

14. Adjust Storm Drain Inlet
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust storm drain inlet, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

15. Roadway Excavation and Subgrade Preparation
    By the cubic yard. Includes sawcutting, excavating, and removing waste materials from the site, and subgrade preparation, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

16. Rough Grading
    By the square foot. Includes rough grading of site, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

17. Truncated Domes
    By the square foot. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials for truncated domes, not associated with new accessible ramps, complete in place, as indicated on the drawings, described in the 2019 CBC Chapter 11B-705.1 and these Special Provisions.

18. Accessible Ramp
    By the unit. Includes providing and placing and compacting aggregate base and concrete, including all grading necessary for installation of accessible ramps, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, installing truncated domes, and for doing all the work involved in furnishing and placing accessible ramps, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

19. Concrete Sidewalk
    By the square foot. Includes providing and placing and compacting aggregate base and concrete sidewalks, including all grading necessary for installation of concrete sidewalk, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

20. Concrete Driveway
    By the square foot. Includes providing and placing and compacting aggregate base and concrete driveways, including all grading necessary for installation of concrete driveway, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete driveways, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

21. Concrete Curb
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

22. Concrete Curb and Gutter
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb and gutter, as well as roll curb to vertical curb transitions as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

23. 8.0” Asphalt Deeplift
    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

24. 12.0” Asphalt Deeplift
    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

25. 12" Storm Drain Pipe
    By the linear foot. Plastic pipe (12” diameter) shall conform to the provisions in Section 64, " Plastic Pipe," of the Caltrans Specifications and these special provisions. Includes initial backfill, trench backfill (AB or slurry), concrete collars, trench paving, and connections at maintenance holes, complete in place, as indicated on the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

26. Type 2 Curb Inlet Catch Basin
    By the unit. Type 2 Curb Inlet Catch Basins shown on the plans include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for installing new catch basins, including all inlets, concrete, initial backfill, trench backfill (AB or slurry), concrete collars, and trench paving, in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

27. Storm Drain Junction Box
    By the unit. Includes full compensation for furnishing and installing storm drain junction boxes, complete in place, including initial backfill, trench backfill (AB or slurry), concrete, and trench paving, in conformance with the Plans, these Special Provisions, the City of Stockton Standard Plans and Specifications.

28. Roadside Sign
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans for new signs, described in Section 56 of the Caltrans Standard Specifications, and described in these Special Provisions.

ALTERNATE AA2

ADDITIONAL CONCRETE REMOVAL AND REPLACEMENT (AS DESIGNED AND SHOWN IN THE PLANS)

1. Mobilization / General Conditions
   By lump sum. All costs connected with mobilization and general conditions of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.

2. Stormwater Pollution BMP's
   By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.

3. Construction Staking and Monument Preservation
   By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades and monument preservation as specified in these Special Provisions and Standard Specifications.

4. Remove Existing Tree
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing tree as indicated on the Plans, described in

Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

5. Remove Existing Curb and Gutter
   By linear foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing curb and gutter, including sawcutting, excavating, off-haul, stones, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

6. Remove Existing Sidewalk
   By square foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing sidewalk, including sawcutting, excavating, off-haul, stones, existing driveways, including steel plates, accessible ramps, truncated domes, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

7. Reconnect Under Sidewalk Drain
   By the unit. Under sidewalk drain, where shown or noted on the Plans to be reconnected, shall be reconnected in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

8. Remove And Reinstall Under Sidewalk Drain
   By the unit. Under sidewalk drain, where shown or noted on the Plans to be constructed, shall be constructed in conformance with the Plans, these Special Provisions, and the City of Stockton Standard Plans and Specifications.

9. Remove Existing Pavement
   By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement, including sawcutting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

10. Adjust Utility Box/Vault (Electric, Street Light, Traffic Signal)
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust utility box/vault (electric, street light, traffic signal), described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

11. Adjust Storm Drain Inlet
    By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust storm drain inlet, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions.

12. Roadway Excavation and Subgrade Preparation
    By the cubic yard. Includes sawcutting, excavating, and removing waste materials from the site, and subgrade preparation, as indicated on the Plans, described in

Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

13. Rough Grading
    By the square foot. Includes rough grading of site, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.

14. Concrete Sidewalk
    By the square foot. Includes providing and placing and compacting aggregate base and concrete sidewalks, including all grading necessary for installation of concrete sidewalk, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

15. Concrete Driveway
    By the square foot. Includes providing and placing and compacting aggregate base and concrete driveways, including all grading necessary for installation of concrete driveway, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete driveways, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

16. Concrete Curb and Gutter
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb and gutter, as well as roll curb to vertical curb transitions as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions.

17. Curb Paint (Red)
    By the linear foot. Includes cleaning surface, providing and painting curbs and installing marker at the locations indicated on the Plans, described in Section 84-2.02C, “Paint,” of the Caltrans Specifications, and described in these Special Provisions.

18. Curb Paint (White, Yellow, Green)
    By the linear foot. Includes cleaning surface, providing and painting curbs and installing marker at the locations indicated on the Plans, described in Section 84-2.02C, “Paint,” of the Caltrans Specifications, and described in these Special Provisions.

19. 8.0” Asphalt Deeplift
    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

ALTERNATE AA3

ALLOWANCE FOR ADDITIONAL CONCRETE REMOVAL AND REPLACEMENT THROUGHOUT CORRIDOR

1. Remove Existing Tree
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing tree as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity removed, as determined by the City, and no additional payment will be made.

2. Remove Existing Roadside Sign
   By the unit. Includes providing all the labor, material, tools, equipment, and incidentals for removing existing roadside sign as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity removed, as determined by the City, and no additional payment will be made.

3. Remove Existing Curb and Gutter
   By linear foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing curb and gutter, including sawcutting, excavating, off-haul, stones, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity removed, as determined by the City, and no additional payment will be made.

4. Remove Existing Sidewalk
   By square foot. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans for removing existing sidewalk, including sawcutting, excavating, off-haul, stones, existing driveways, including steel plates, accessible ramps, truncated domes, base and debris, loading and removing waste materials from the site and performing the work as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in

these Special Provisions. The pay quantity will be based upon the actual quantity removed, as determined by the City, and no additional payment will be made.

5. Remove Existing Pavement
   By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement, including sawcutting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made. The pay quantity will be based upon the actual quantity removed, as determined by the City, and no additional payment will be made.

6. Adjust Utility Box/Vault (Electric, Street Light, Traffic Signal)
   By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust utility box/vault (electric, street light, traffic signal), described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

7. Adjust Storm Drain Inlet
   By the unit. Includes providing all labor, materials, tools equipment, and incidentals as indicated on the Plans to adjust storm drain inlet, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

8. Roadway Excavation and Subgrade Preparation
   By the cubic yard. Includes sawcutting, excavating, and removing waste materials from the site, and subgrade preparation, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

9. Rough Grading
   By the square foot. Includes rough grading of site, as indicated on the Plans, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

10. Accessible Ramp
    By the unit. Includes providing and placing and compacting aggregate base and concrete, including all grading necessary for installation of accessible ramps, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, installing truncated domes, and for doing all the work involved in furnishing and placing accessible ramps, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard

Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

11. Concrete Sidewalk
    By the square foot. Includes providing and placing and compacting aggregate base and concrete sidewalks, including all grading necessary for installation of concrete sidewalk, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

12. Concrete Driveway
    By the square foot. Includes providing and placing and compacting aggregate base and concrete driveways, including all grading necessary for installation of concrete driveway, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete driveways, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

13. Concrete Curb and Gutter
    By the linear foot. Includes providing and placing and compacting aggregate base, supplying concrete to the site, forming, reinforcing, placing concrete, removing forms, curing, finishing, loading and removing waste materials from the site, and constructing the facilities for concrete curb and gutter, as well as roll curb to vertical curb transitions as indicated on the Plans, described in Section 73 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

14. 8.0” Asphalt Deeplift
    By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

15. Roadside Sign
    By the unit. Includes full compensation for furnishing all labor, tools, equipment and incidentals for furnishing the materials, complete in place, as indicated on the Plans for new signs, described in Section 56 of the Caltrans Standard Specifications, and described in these Special Provisions. The pay quantity will be based upon the actual quantity, as determined by the City, and no additional payment will be made.

ALTERNATE AA4

PHASE 1 AND PHASE 2: BASE FAILURE REPAIR OUTSIDE OF BIKE LANE

1. Mobilization / General Conditions
   By lump sum. All costs connected with mobilization and general conditions of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
2. Stormwater Pollution BMP's
   By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.
3. Construction Staking and Monument Preservation
   By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades and monument preservation as specified in these Special Provisions and Standard Specifications.
4. Remove Existing Pavement
   By the square foot. Includes providing all the labor, material, tools, equipment, and incidentals as indicated on the Plans for removing and disposing of existing pavement, including sawcutting, described in Section 15 of the Caltrans Standard Specifications, and described in these Special Provisions. The final pay quantity will be based upon the actual quantity removed, as determined by the Engineer, and no additional payment will be made.
5. 12.0" Asphalt Deeplift
   By the ton. Includes supplying and placing asphalt binder, supplying, preparing, placing and compacting asphalt concrete, including compacting subgrade, and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

ALTERNATE AA5

PHASE 1 AND PHASE 2: GRIND AND OVERLAY OUTSIDE OF BIKE LANE

1. Mobilization / General Conditions
   By lump sum. All costs connected with mobilization and general conditions of Contractor's operations as described in Section 9 of the Caltrans Specifications will be paid for at the Contract price.
2. Stormwater Pollution BMP's
   By lump sum. Includes preparing, developing, obtaining approval of, permit fees, permit renewal fees, revisions and amendments to the projects Stormwater Pollution Prevention Program (SWPPP), as described in these Special Provisions and in accordance with the State's Construction General Permit. It also includes providing labor, materials, tools, equipment and incidentals for doing all the work involve in BMP's.
3. Construction Staking and Monument Preservation
   By lump sum. The Contractor shall provide construction staking as needed to accurately construct the project improvements as described in Section 5 of the Caltrans Standard Specifications and these Special Provisions. In addition, doing all the work involved in establishing the lines and grades and monument preservation as specified in these Special Provisions and Standard Specifications.
4. 3" Grind
   By the square foot. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in grinding existing pavement, including off-haul and street sweeping, as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.
5. 3" Overlay
   By the ton. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in supplying and placing asphalt binder, supplying, preparing, placing, and compacting asphalt concrete and constructing to the elevations, thickness and locations as indicated on the Plans, described in Section 39 of the Caltrans Standard Specifications, and described in these Special Provisions.

ALTERNATE AA6

ADDITIONAL TRAFFIC SIGNAL UPDATES

1. Controller
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Controller as indicated on the Plans and described in these Special Provisions.
2. Ethernet Switches
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Ethernet Switches as indicated on the Plans and described in these Special Provisions.
3. TS2 Type M Cabinet Installation
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in TS2 Type M Cabinet Installation as indicated on the Plans and described in these Special Provisions.
4. Video Detection Installation
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Video Detection Installation as indicated on the Plans and described in these Special Provisions.
5. EVP Installation
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in EVP Installation as indicated on the Plans and described in these Special Provisions.
6. IP Camera Installation
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in IP Camera Installation as indicated on the Plans and described in these Special Provisions.
7. Bluetooth Real Time Traffic Monitor
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in Bluetooth Real Time Traffic Monitor as indicated on the Plans and described in these Special Provisions.
8. APS Installation
   By lump sum. Includes providing all the labor, material, tools, equipment, and incidentals for the work involved in APS Installation as indicated on the Plans and described in these Special Provisions.

9-1.03 QUANTITIES

The **following** estimate of the quantities of work to be done and materials to be furnished are **approximate only**, and are intended as a basis for the comparison of bids. The City does not expressly or by implications agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work without increase or decrease in the unit price bid or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

PHASE 1

CALIFORNIA STREET, FROM MINER AVENUE TO ALPINE AVENUE

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	MOBILIZATION / GENERAL CONDITIONS	LS	1
2	TRAFFIC CONTROL DETOURS AND ACCESS	LS	1
3	STORMWATER POLLUTION BMP's	LS	1
4	CONSTRUCTION STAKING AND MONUMENT PRESERVATION	LS	1
5	CLEARING AND GRUBBING	LS	1
6	REMOVE EXISTING ROADSIDE SIGN	EA	33
7	REMOVE EXISTING CURB AND GUTTER	LF	256
8	REMOVE EXISTING SIDEWALK	SF	3,001
9	REMOVE AND REINSTALL UNDER SIDEWALK DRAIN	EA	6
10	REMOVE EXISTING PAVEMENT	SF	9,054
11	REMOVE EXISTING STORM DRAIN INLET	EA	1
12	REMOVE EXISTING STORM DRAIN PIPE	LF	13
13	REMOVE EXISTING STRIPING	LS	1
14	REMOVE EXISTING PAVEMENT MARKINGS	LS	1
15	REMOVE EXISTING RECTANGULAR RAPID FLASHING BEACON ASSEMBLY	LS	1
16	ROADWAY EXCAVATION AND SUBGRADE PREPARATION	CY	480

17	ROUGH GRADING	SF	14,306
18	ACCESSIBLE RAMP	EA	3
19	CONCRETE SIDEWALK	SF	405
20	CONCRETE DRIVEWAY	SF	4,124
21	CONCRETE CURB AND GUTTER	LF	110
22	CURB PAINT (RED)	LF	1,273
23	12" STORM DRAIN PIPE	LF	15
24	TYPE 2 CURB INLET CATCH BASIN	EA	1
25	1.5" GRIND	SF	61,817
26	1.5" OVERLAY	TON	641
27	CRACK SEAL	SF	315,790
28	SLURRY SEAL	SF	315,790
29	8.0" ASPHALT DEEPLIFT	TON	87
30	12.0" ASPHALT DEEPLIFT	TON	643
31	4" THERMOPLASTIC - WHITE (DETAILS 27B AND 27M)	LF	312
32	4" THERMOPLASTIC - WHITE (BIKE BUFFER HATCH STRIPING)	LF	6,149
33	6" THERMOPLASTIC - WHITE (DETAILS 9, 39, AND 39A)	LF	24,677
34	8" THERMOPLASTIC - WHITE (DETAILS 37B AND 38)	LF	1,233
35	12" THERMOPLASTIC - WHITE	LF	316
36	24" THERMOPLASTIC - WHITE	LF	596
37	4" THERMOPLASTIC - YELLOW (DETAILS 22, 25A, 29, 32)	LF	25,498
38	12" THERMOPLASTIC - YELLOW	LF	997
39	24" THERMOPLASTIC - YELLOW	LF	78

40	THERMOPLASTIC PAVEMENT MARKINGS - WHITE	SF	1,952
41	THERMOPLASTIC PAVEMENT MARKINGS - GREEN	SF	3,519
42	HEAVY DUTY CHANNELIZER	EA	839
43	ROADSIDE SIGN	EA	185
44	PROJECT SIGN	EA	2
45	CROSSWALK SIGNS, RRFB, PUSH BUTTON AND ASSEMBLY	EA	1
46	TRAFFIC SIGNAL MODIFICATION: MINER AVENUE	LS	1
47	TRAFFIC SIGNAL MODIFICATION: OAK STREET	LS	1
48	TRAFFIC SIGNAL MODIFICATION: PARK STREET	LS	1
49	TRAFFIC SIGNAL MODIFICATION: MAGNOLIA STREET	LS	1
50	TRAFFIC SIGNAL MODIFICATION: HARDING WAY	LS	1
51	TRAFFIC SIGNAL MODIFICATION: WALNUT STREET	LS	1
52	TRAFFIC SIGNAL MODIFICATION: MCCLOUD STREET	LS	1
53	TRAFFIC SIGNAL MODIFICATION: ALPINE AVENUE	LS	1

PHASE 2

EIGHTH STREET, FROM EL DORADO STREET TO CALIFORNIA STREET, AND CALIFORNIA STREET, FROM EIGHTH STREET TO SOUTHERLY OF MINER AVENUE

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	MOBILIZATION / GENERAL CONDITIONS	LS	1
2	TRAFFIC CONTROL DETOURS AND ACCESS	LS	1
3	STORMWATER POLLUTION BMP's	LS	1
4	CONSTRUCTION STAKING AND MONUMENT PRESERVATION	LS	1
5	CLEARING AND GRUBBING	LS	1
6	REMOVE EXISTING TREE	EA	9
7	REMOVE EXISTING BOLLARD	EA	5
8	REMOVE EXISTING ROADSIDE SIGN	EA	17
9	REMOVE EXISTING CURB AND GUTTER	LF	2,855
10	REMOVE EXISTING SIDEWALK	SF	8,727
11	REMOVE EXISTING SANITARY SEWER PIPE	LF	541
12	RECONNECT UNDER SIDEWALK DRAIN	EA	12
13	REMOVE AND REINSTALL UNDER SIDEWALK DRAIN	EA	3
14	REMOVE EXISTING PAVEMENT	SF	36,111
15	REMOVE EXISTING STRIPING	LS	1
16	REMOVE EXISTING PAVEMENT MARKINGS	LS	1
17	ADJUST TRAFFIC SIGNAL POLE	EA	1
18	ADJUST UTILITY BOX/VAULT (ELECTRIC, STREET LIGHT, TRAFFIC SIGNAL)	EA	9
19	ADJUST STREET LIGHT	EA	3

20	ADJUST STORM DRAIN INLET	EA	13
21	ADJUST CLEANOUT	EA	1
22	ADJUST UTILITY MAINTENANCE HOLE	EA	11
23	ROADWAY EXCAVATION AND SUBGRADE PREPARATION	CY	1,573
24	ROUGH GRADING	SF	47,103
25	TRUNCATED DOMES	SF	351
26	ACCESSIBLE RAMP	EA	19
27	CONCRETE SIDEWALK	SF	7,068
28	CONCRETE DRIVEWAY	SF	2,032
29	CONCRETE CURB	LF	32
30	CONCRETE CURB AND GUTTER	LF	2,332
31	CURB PAINT (RED)	LF	2,208
32	CURB PAINT (WHITE, YELLOW, GREEN)	LF	522
33	1.5" GRIND	SF	107,112
34	1.5" OVERLAY	TON	1,111
35	CRACK SEAL	SF	267,120
36	SLURRY SEAL	SF	267,120
37	8.0" ASPHALT DEEPLIFT	TON	323
38	12.0" ASPHALT DEEPLIFT	TON	2,089
39	8" SANITARY SEWER PIPE	LF	541
40	SANITARY SEWER LATERAL REPLACEMENT	EA	9
41	SANITARY SEWER CLEANOUT	EA	9
42	4" THERMOPLASTIC - WHITE (DETAILS 9 AND 27B)	LF	7,009

43	4" THERMOPLASTIC - WHITE (BIKE BUFFER HATCH STRIPING)	LF	1,638
44	6" THERMOPLASTIC - WHITE (DETAILS 39 AND 39A)	LF	24,694
45	8" THERMOPLASTIC - WHITE (DETAILS 37B AND 38)	LF	751
46	12" THERMOPLASTIC - WHITE	LF	559
47	24" THERMOPLASTIC - WHITE	LF	850
48	4" THERMOPLASTIC - YELLOW (DETAILS 22, 25A, 29, 32)	LF	28,860
49	12" THERMOPLASTIC - YELLOW	LF	390
50	THERMOPLASTIC PAVEMENT MARKINGS - WHITE	SF	2,087
51	THERMOPLASTIC PAVEMENT MARKINGS - GREEN	SF	1,215
52	HEAVY DUTY CHANNELIZER	EA	315
53	ROADSIDE SIGN	EA	135
54	PROJECT SIGN	EA	3
55	TRAFFIC SIGNAL MODIFICATION: FOURTH STREET	LS	1
56	TRAFFIC SIGNAL MODIFICATION: DR. MARTIN LUTHER KING, JR. BOULEVARD	LS	1
57	TRAFFIC SIGNAL MODIFICATION: LAFAYETTE STREET	LS	1
58	TRAFFIC SIGNAL MODIFICATION: WASHINGTON STREET	LS	1
59	TRAFFIC SIGNAL MODIFICATION: MAIN STREET	LS	1
60	TRAFFIC SIGNAL MODIFICATION: WEBER AVENUE	LS	1
61	STREET LIGHT AND FOUNDATION	EA	15
62	STREET LIGHT CONDUIT AND CONDUCTORS	LF	4,085
63	STREET LIGHT PULL BOX	EA	25
64	STREET LIGHT SERVICE CONNECTION	EA	3

ALTERNATE AA1

ACCESSIBLE RAMPS AND DRIVEWAYS REMOVED FROM BASE BID

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	MOBILIZATION / GENERAL CONDITIONS	LS	1
2	STORMWATER POLLUTION BMP's	LS	1
3	CONSTRUCTION STAKING AND MONUMENT PRESERVATION	LS	1
4	REMOVE EXISTING TREE	EA	9
5	REMOVE EXISTING ROADSIDE SIGN	EA	12
6	REMOVE EXISTING CURB AND GUTTER	LF	2,631
7	REMOVE EXISTING SIDEWALK	SF	22,055
8	REMOVE EXISTING STORM DRAIN INLET	EA	1
9	REMOVE EXISTING STORM DRAIN PIPE	LF	6
10	REMOVE AND REINSTALL UNDER SIDEWALK DRAIN	EA	2
11	REMOVE EXISTING PAVEMENT	SF	7,386
12	ADJUST TRAFFIC SIGNAL POLE	EA	3
13	ADJUST UTILITY BOX/VAULT (ELECTRIC, STREET LIGHT, TRAFFIC SIGNAL)	EA	6
14	ADJUST STORM DRAIN INLET	EA	22
15	ROADWAY EXCAVATION AND SUBGRADE PREPARATION	CY	897
16	ROUGH GRADING	SF	30,415
17	TRUNCATED DOMES	SF	164
18	ACCESSIBLE RAMP	EA	52
19	CONCRETE SIDEWALK	SF	10,199
20	CONCRETE DRIVEWAY	SF	6,763

21	CONCRETE CURB	LF	92
22	CONCRETE CURB AND GUTTER	LF	1,383
23	8.0" ASPHALT DEEPLIFT	TON	376
24	12.0" ASPHALT DEEPLIFT	TON	3
25	12" STORM DRAIN PIPE	LF	10
26	TYPE 2 CURB INLET CATCH BASIN	EA	1
27	STORM DRAIN JUNCTION BOX	EA	1
28	ROADSIDE SIDE	EA	12

ALTERNATE AA2

ADDITIONAL CONCRETE REMOVAL AND REPLACEMENT (AS DESIGNED AND SHOWN IN THE PLANS)

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	MOBILIZATION / GENERAL CONDITIONS	LS	1
2	STORMWATER POLLUTION BMP's	LS	1
3	CONSTRUCTION STAKING AND MONUMENT PRESERVATION	LS	1
4	REMOVE EXISTING TREE	EA	7
5	REMOVE EXISTING CURB AND GUTTER	LF	4,847
6	REMOVE EXISTING SIDEWALK	SF	15,038
7	RECONNECT UNDER SIDEWALK DRAIN	EA	14
8	REMOVE AND REINSTALL UNDER SIDEWALK DRAIN	EA	13
9	REMOVE EXISTING PAVEMENT	SF	11,792
10	ADJUST UTILITY BOX/VAULT (ELECTRIC, STREET LIGHT, TRAFFIC SIGNAL)	EA	14
11	ADJUST STORM DRAIN INLET	EA	1

12	ROADWAY EXCAVATION AND SUBGRADE PREPARATION	CY	1,098
13	ROUGH GRADING	SF	37,607
14	CONCRETE SIDEWALK	SF	10,148
15	CONCRETE DRIVEWAY	SF	6,327
16	CONCRETE CURB AND GUTTER	LF	4,394
17	CURB PAINT (RED)	LF	114
18	CURB PAINT (WHITE, YELLOW, GREEN)	LF	269
19	8.0" ASPHALT DEEPLIFT	TON	474

ALTERNATE AA3

ALLOWANCE FOR ADDITIONAL CONCRETE REMOVAL AND REPLACEMENT THROUGHOUT CORRIDOR

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	REMOVE EXISTING TREE	EA	50
2	REMOVE EXISTING ROADSIDE SIGN	EA	10
3	REMOVE EXISTING CURB AND GUTTER	LF	6,900
4	REMOVE EXISTING SIDEWALK	SF	64,815
5	REMOVE EXISTING PAVEMENT	SF	16,500
6	ADJUST UTILITY BOX/VAULT (ELECTRIC, STREET LIGHT, TRAFFIC SIGNAL)	EA	50
7	ADJUST STORM DRAIN INLET	EA	20
8	ROADWAY EXCAVATION AND SUBGRADE PREPARATION	CY	2,977
9	ROUGH GRADING	SF	99,765
10	ACCESSIBLE RAMP	EA	20
11	CONCRETE SIDEWALK	SF	54,915

12	CONCRETE DRIVEWAY	SF	9,900
13	CONCRETE CURB AND GUTTER	LF	6,900
14	8.0" APSHALT DEEPLIFT	TON	913
15	ROADSIDE SIGN	EA	10

ALTERNATE AA4

PHASE 1 AND PHASE 2: BASE FAILURE REPAIR OUTSIDE OF BIKE LANE

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	MOBILIZATION / GENERAL CONDITIONS	LS	1
2	STORMWATER POLLUTION BMP's	LS	1
3	CONSTRUCTION STAKING AND MONUMENT PRESERVATION	LS	1
4	REMOVE EXISTING PAVEMENT	SF	18,385
5	12.0" ASPHALT DEEPLIFT	TON	1,526

ALTERNATE AA5

PHASE 1 AND PHASE 2: GRIND AND OVERLAY OUTSIDE OF BIKE LANE

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	MOBILIZATION / GENERAL CONDITIONS	LS	1
2	STORMWATER POLLUTION BMP's	LS	1
3	CONSTRUCTION STAKING AND MONUMENT PRESERVATION	LS	1
4	3" GRIND	SF	851,690
5	3" OVERLAY	TON	17,673

ALTERNATE AA6

ADDITIONAL TRAFFIC SIGNAL UPGRADES

ITEM NO.	ITEM DESCRIPTION	UNITS	EST. QTY
1	CONTROLLER	EA	14
2	ETHERNET SWITCHES	EA	15
3	TS2 TYPE M CABINET INSTALLATION	EA	8
4	VIDEO DETECTION INSTALLATION	EA	4
5	EVP INSTALLATION	EA	4
6	IP CAMERA INSTALLATION	EA	8
7	BLUETOOTH REAL TIME TRAFFIC MONITOR	EA	2
8	APS INSTALLATION	EA	2

Each bidder shall bid each item on the Base Bid Schedule. Failure to bid an item shall be just cause for considering the bid as non-responsive. The City reserves the right to include or delete any Schedule or portion thereof, or to reject all bids.

Official bid documents, including plans and specifications are available online at http://www.stocktongov.com/services/business/bidflash/pw.html?dept=Public_Works**.** All bids submitted for this project, must conform to the requirements of the official bid documents, including plans and specifications.

9-1.04 UNSATISFACTORY PROGRESS

If the number of working days charged to the contract exceeds 75 percent of the working days in the current time of completion and the percent working days elapsed exceeds the percent work completed by more than 15 percentage points, the City will withhold 10 percent of the amount due on the current monthly estimate.

The percent working days elapsed will be determined from the number of working days charged to the contract divided by the number of contract working days in the current time of completion, expressed as a percentage. The number of contract working days in the current time of completion shall consist of the original contract working days increased or decreased by time adjustments approved by the Engineer.

The percent work completed will be determined by the Engineer from the sum of payments made to date plus the amount due on the current monthly estimate, divided by

the current total estimated value of the work, expressed as a percentage.

When the percent of working days elapsed minus the percent of work completed is less than or equal to 15 percentage points, the funds withheld shall be returned to the Contractor with the next monthly progress payment.

Funds kept or withheld from payment, due to the failure of the Contractor to comply with the provisions of the contract, will not be subject to the requirements of Public Contract Code 7107 or to the payment of interest pursuant to Public Contract Code Section 10261.5.

9-1.05 MOBILIZATION

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and for all other work and operations which must be performed or costs incurred prior to beginning work on the various contract items on the project site.

Full compensation for mobilization shall be considered as included in the lump sum price paid for Mobilization, and no additional compensation will be allowed therefore.

9-1.06 INCREASE OR DECREASE QUANTITIES

The City reserves the right to make such alterations, deviations, additions to, or omissions from the plans and specifications, including the right to increase or decrease the quantity of any item or portion of the work or to omit any item or portion of the work, as may be deemed by the Engineer to be necessary or advisable and to require such extra work as may be determined by the Engineer to be required for the proper completion or construction of the whole work contemplated, without adjustment in the unit price as bid. Section 9-1.06B and Section 9-1.06C of the Caltrans Specifications shall not apply.
Any such changes will be set forth in a contract change order, which will specify, in addition to the work to be done in connection with the change made, adjustment of contract time, if any, and the basis of compensation for such work. A contract change order will not become effective until approved by the Public Works Director. City Manager and/or City Council approval may be necessary depending on the amount of the change order.

9-1.07 STOP NOTICE

Section 9-1.16E (4), “Stop Notice Withholds,” of the Caltrans Specifications is amended to read as follows:
At its option, the Department of Public Works may at any time retain from the amounts due to the Contractor sufficient amount to cover claims which are filed pursuant to Section 3179 et seq of the Code of Civil Procedures.

9-1.08 QUANTITIES

The estimate of the quantities of work to be done and materials to be furnished are approximate only, and are intended as a basis for the comparison of bids. The City does

not expressly or by implications agree that the actual amount of work will correspond therewith, but reserves the right to increase or decrease the amount of any class or portion of the work without increase or decrease in the unit price bid or to omit portions of the work that may be deemed necessary or expedient by the Engineer.

For the estimate of quantities of work, refer to plans.

Each bidder shall bid each item, including all alternative bid(s). Failure to bid an item shall be just cause for considering the bid as non-responsive. Line item costs should include all Contractor's overhead and profit and indirect costs. Bids not presented on City forms shall be cause for considering the bid as non-responsive. The basis of contract award will be the lower bidder for the Base Bid. It is the City's sole discretion to add, or not add, the Alternative Bid(s) to the Base Bid contract.

Official bid documents, including plans and specifications are available online at http://www.stocktongov.com/services/business/bidFlash/default.html

All bids submitted for this project must conform to the requirements of the official bid documents, including plans and specifications.

9-1.09 ALTERNATIVE DISPUTE RESOLUTION

Section 5-1.43E, "Alternative Dispute Resolution," and Section 9-1.22 "Arbitration," of the Caltrans Standard Specification is deleted from this Contract in its entirety.

DIVISION II GENERAL CONSTRUCTION

SECTION 10 – GENERAL CONSTRUCTION

10-1.01 ORDER OF WORK

The order of work shall conform to the Contractor's approved project schedule described in Section 8-1.03, "Progress Schedule", of these Special Provisions.

Contractor's attention is directed to the Public Safety, Public Convenience, and Maintaining Traffic sections of these Special Provisions. Nothing in this section shall be construed as to relieve the Contractor of his/her responsibility to stage the work in a manner which complies with the requirements of these sections.

All permits and approvals as may be required for this project shall be secured or ordered immediately after award of the contract or their acquisition timing determined, such that the same is not a cause for delay. The cost of the permits shall be included in the total bid costs.

At those locations exposed to public traffic where guard railings or barriers are to be constructed, reconstructed, or removed and replaced, the Contractor shall schedule operations so that at the end of each working day there shall be no post holes open nor shall there be any railing or barrier posts installed without the blocks and rail elements assembled and mounted thereon.

Before obliterating any pavement delineation (traffic stripes, pavement markings, and pavement markers) that is to be replaced on the same alignment and location, as determined by the Engineer, the pavement delineation shall be referenced by the Contractor, with a sufficient number of control points to reestablish the alignment and location of the new pavement delineation. The references shall include the limits or changes in striping pattern, including one- and 2-way barrier lines, limit lines, crosswalks and other pavement markings.

The Contractor shall stage and sequence the work as follows:

1. The Resident Engineer shall coordinate with SJCOG on performing pre-construction bird survey 30 days prior to start of construction.
2. Upon award of the Construction Contract by Stockton's City Council (Notice of Award) the Contractor shall prepare all project submittals for City review as set forth in Section 5-1.04, "Submittals" of these Special Provisions.
3. The contractor orders all items required, after all submittals are approved by the Engineer, for this project which may have long lead times to assure that their acquisition is not the cause for any delays. These items may include, but are not limited to, traffic signal equipment, street lighting, and related appurtenances. The Contractor shall furnish the Engineer with statements from the vendors that the orders for said equipment has been received and accepted by said vendors. These statements shall be furnished within ten (10) working days of the Notice to Proceed date.
4. Obtain all necessary permits.
5. Prior to the start of construction, the Contractor shall submit to the Engineer for approval a detailed "Traffic Control Plan" which also addresses pedestrian detours. The Traffic Control Plan shall be prepared in accordance with the provisions in Section 12-1.01," Maintaining Traffic" of these special provisions.
6. Traffic signal and lighting standards and other above ground electrical equipment shall not be installed until the Contractor has received delivery of all electrical materials.
7. Prior to the start of construction, the Contractor shall verify the location and depth of all existing utilities and underground facilities within the project limits. The Contractor shall notify the Engineer of any discrepancies between the conditions in the field and the plans.
8. The Contractor shall develop and implement a Water Pollution Control Program (WPCP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off site into receiving waters. The Contractor shall inspect and maintain all BMPs.

At the end of each working day if a difference in excess of 2 inches exists between the

elevation of the existing pavement and the elevation of excavations within 4 feet of the traveled way, material shall be placed and compacted against the vertical cuts adjacent to the traveled way. During excavation operations, native material may be used for this purpose; however, once placing of the topsoil commences, topsoil material shall be used. The material shall be placed to the level of the elevation of the top of existing pavement and tapered at a slope of 1:4 (vertical:horizontal) or flatter to the bottom of the excavation.

Minor deviations from these requirements may be allowed by the Engineer, if in the opinion of the Engineer, the prosecution of the contract will be better served and the work expedited. Any Contractor request for such deviations shall not be adopted without the Engineer's prior written approval.

Full compensation for conforming to such requirements will be considered as included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

10-1.02 ALTERNATIVE EQUIPMENT

The City reserves the right to order discontinuance of any equipment in use. This will be determined at the discretion of the Engineer on the basis that the use of said equipment would prohibit obtaining the best possible end result.

Additional installation equipment may be requested by the Engineer for the above reason. Failure to comply with the Engineer's request concerning equipment use or removal will be deemed sufficient cause for shutting down all work until the requirements are met. Days lost for this type of shutdown will be charged as working days.

10-1.03 INSPECTIONS

All work under this contract shall be under the control and inspection of the City Engineer or his appointed representative. The Contractor shall notify of the Public Works Department, at (209) 937-8381, three (3) working days in advance of any construction.

10-1.04 OBSTRUCTIONS

Attention is directed to Section 5-1.36,”Property and Facility Preservation” of Caltrans Specifications, Sections 7-1.05, "Indemnification” and Section 7-1.06, “ Insurance”, of the Standard Specifications and Section 15, "Existing Facilities", of the Caltrans Specifications and these Special Provisions.

The Contractor's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the Contractor to protect the health, safety, and welfare of workers and of the public. Facilities requiring special precautions include, but are not limited to, conductors of petroleum products, oxygen, chlorine, and toxic or flammable gases, natural gas in pipelines six (6) inches or greater in diameter, or pipelines operating at pressures greater than 415 KPa (gage); underground electric supply system conductors or cables with potential to ground of more than 300 V, either directly buried or in duct or conduit, which do not have concentric grounded or other effectively grounded metal shields on sheaths.

The Contractor shall notify the Engineer and the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire, or other structure. Regional notification centers include, but are not limited to, the following:

Notification Center	Telephone Number
Underground Service Alert – Northern California (USA)	(811) 227-2600 (800) 227-2600
South Shore Utility Coordinating Council (DICS)	(800)-541-3447

Relocations or repairs necessitated because of existing facilities, which are not shown on the plans or are shown at substantially different locations than existing, may be paid as extra work in accordance with Section 4-1.02, “Changes and Extra Work”, of the these Special Provisions, but only if the Engineer rules that the Contractor exercised due diligence in his operation. Due diligence may be determined by the Engineer by reviewing surface and subsurface conditions that were existing prior to exposing the facility and determining the absence of any signs sufficient to warn a diligent Contractor of the possible existence of a facility in the area.

Immediately upon encountering unknown existing facilities, the Contractor shall notify the Engineer in writing of the situation, request coverage of the work as extra work, and aid the Engineer in determining due diligence. Failure to do so may result in forfeiture of any rights to receive extra work compensation under Section 8-1.07, "Delay", of the Standard Specifications. Should the Contractor stop work, no compensation will be made for any "down time" prior to written notifications being received by the Engineer or his representative.

Delays due to encountering unexpected facilities shall be determined and compensated in accordance with the provisions of Section 8-1.07, "Delay", of the Standard Specifications, and as herein modified. Delays due to encountering unexpected facilities shall be compensated as additional contract working days to the contractor. Contractor shall submit a written request to the Engineer requesting time extension due to the delay. No other compensation is allowed.

Payment for complying with this Special Provision shall be included in the various items of work, and no additional compensation will be allowed therefore.

10-1.05 SYSTEM OUTAGE REQUEST, CITY OF STOCKTON FACILITIES

Modifications to existing facilities, the construction of new facilities, and the connection of new to existing facilities may require the temporary outage or bypass of treatment processes, equipment, utilities, or other facilities. In addition to the Construction Schedule required under these Special Provisions, the Contractor shall submit a System Outage Request (SOR) and a detailed outage plan and time schedule for all construction activities, which will make it necessary to remove a tank, pipeline, channel, electrical circuit, control circuit, equipment, structure, road, or other facilities from service.

The SOR and outage plan shall be submitted to the Engineer and other affected utilities for review and acceptance a minimum of two (2) weeks in advance of the time that such outage is needed. The outage plan shall be coordinated with the construction schedule specified in these Special Provisions and shall meet the restrictions and conditions specified in this section. The detailed plan shall describe the Contractor's method for preventing bypassing of other facilities; the length of time required to complete said operation; any necessary temporary power, controls, instrumentation, or alarms required to maintain control, monitoring, and alarms for the affected facilities; and the labor, plant, and equipment which the Contractor shall provide in order to ensure proper operation.

In addition, the outage plan shall describe the Contractor's contingency plan that shall be initiated in the event that his temporary facilities fail, or it becomes apparent that the time constraints described in the approved outage plan cannot be met. The contingency plan shall conform to all specified outage requirements. All costs for preparing and implementing both the outage and contingency plans shall be borne by the Contractor with no additional compensation therefore.

The Contractor shall provide, Monday through Friday, at least three (3) working days prior to the actual shutdown, written confirmation of the shutdown date and time, or written notification that the schedule for performing the work has changed, or revisions to the outage plan are required.

Operations of the City's facilities and utilities are critical to the public health and safety of the citizens of Stockton. Sufficient facilities to serve the needs and demands of the City shall remain in service at all times. The City and/or affected utility owner shall be the sole judge of its needs and the facilities that must remain in service to provide adequate service.

The Contractor shall coordinate and cooperate with the City and utilities to establish the Contractor's schedule for work at the entire project facilities. The approved project schedule shall be subject to change, as it pertains to site work and shutdowns, when required by the City/utilities to accommodate unforeseen or emergency situations in the operation of the affected facilities.

Payment for complying with this Special Provision shall be included in the various other items of work, and no additional compensation will be allowed therefore.

10-1.06 DIRECTIONAL BORING

Contractor’s attention is directed to the provisions in Section 77-1.09, “Conduit” of these Special Provisions and Sections 86-1.02B, “Conduit and Accessories” and 87-1.03B, “Conduit Installation” of the Caltrans Specifications for the installation of signal and ITS conduits. Should the contractor desire to use other type(s) of conduit such as HDPE for the ITS conduits then the Contractor should submit the material specifications for the proposed conduit to the Engineer for his review and approval. Contractor’s attention is also directed to the provisions in Section 5-1.04 “Submittals” of these Special Provisions.

A. General

1. Quality Assurance
The requirements set forth in this document specify a wide range of procedural precautions necessary to ensure that the very basic, essential aspects of a proper directional bore installation are adequately controlled. Strict adherence shall be required under specifically covered conditions outlined in this specification. Adherence to the specifications contained herein, or the Engineer's approval of any aspect of any directional bore operation covered by this specification, shall in no way relieve the Contractor of their ultimate responsibility for the satisfactory completion of the work authorized under the Contract.

2. Submittals

a. MATERIAL: Specifications on material to be used shall be submitted to the Engineer. Material shall include the conduit, fittings and any other item which is to be an installed component of the project. Contractor’s attention is directed to the provisions in Section 6-1.04, “Buy America requirements” of these Special Provisions for purchase of the signal and ITS conduits.

B. Equipment Requirements

1. General
The directional boring equipment shall consist of a directional boring rig of sufficient capacity to perform the bore and pullback the conduit, a boring fluid mixing and delivery system of sufficient capacity to successfully complete the boring, a guidance system to accurately guide boring operations and trained and competent personnel to operate the system. All equipment shall be in good, safe operating condition with sufficient supplies, materials and spare parts on hand to maintain the system in good working order for the duration of this project.

C. Operations

1. General
The Engineer must be notified 48 hours in advance of starting work. The Directional Bore shall not begin until the Inspector is present at the job site and agrees that proper preparations for the operation have been made. The Inspector’s approval for beginning the installation shall in no way relieve the Contractor of the ultimate responsibility for the satisfactory completion of the work as authorized under the Contract. The conduit shall be installed below the minimum depth of 24" unless directed otherwise by the Engineer.

2. Site Restoration
Following boring operations, the Contractor shall de-mobilize equipment and restore the work site to its original condition. All excavations shall be backfilled and compacted according to the City of Stockton requirements.

3. Record Keeping, As-Builts
The Contractor shall maintain a daily project log of boring operations and a guidance system log with a copy given to the Engineer at the completion of the project. As-built drawings shall be certified as to accuracy by the Contractor.

D. Payment

Full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the work involved with installing conduits by directional boring methods, including, but not be limited to, excavating, backfilling and compacting the boring and receiving pits, boring and tunneling, removing and replacing concrete sidewalk, as shown on the Plans, as set forth in these Special Provisions, and as directed by the Engineer will be considered as included in the contract prices paid for various items of work requiring installation of conduit, and no additional compensation will be allowed therefore.

10-1.07 SHEETING AND SHORING

Attention is directed to the Section 10-1.02E, “Excavation” of the Caltrans Specifications. Excavations shall be adequately shored and braced so that the earth will not slide, move, or settle, and so that all existing improvements of any kind will be fully protected from damage.

Attention is called to Article 6 of "Construction Safety Orders" of the California Division of Industrial Safety, which applies to all open excavations made in the earth's surface, including trenches.

Trenches over five (5) feet in depth requires a permit from California Division of Industrial Safety and shall be evaluated for stability prior to personnel entering the trench. Where trenches are deeper than five (5) feet, the Contractor shall comply with the California Occupational Safety and Health Administration (CAL OSHA) requirements pertaining to trench safety.

The Contractor shall furnish, install, and maintain such sheet piling, timbering, lagging, and bracing as indicated on the standard drawings or any additional precautions not specifically set forth as necessary to support the sides of the trench. The protection of adjacent structures from movement of the ground and the elimination of the element of danger to life, property, or to existing improvements is the intent of this requirement.

Additional supports requested by the Engineer shall in no way relieve the Contractor of his responsibility for the sufficiency of his precautions.

All such piling, timbering, lagging, and bracing shall, unless otherwise required by the Engineer, be removed during backfilling in such a manner as to prevent any movement of the ground or damage to the piping or other structures.

Full compensation for complying with these provisions shall be included in the contract prices paid for the various items of work, and no additional compensation will be allowed therefore.

10-1.08 SURFACE RESTORATION

Surface restoration shall consist of restoring all areas within the limits of work to their original existing condition prior to construction or to the condition shown on the plans or specified in the Specifications.

The Contractor shall restore all paved areas, such as driveways, curb and gutter, sidewalk, roadway surfaces, ditches, etc., landscaped areas, and all other improvements disturbed or damaged by his operations.

Payment for the restoration of damaged areas, for which specific bid items are not provided, shall be included in the prices paid for various items of work and no additional compensation will be allowed therefore.

SECTION 11 – BLANK

SECTION 12 – TEMPORARY TRAFFIC CONTROL

Attention is directed to Part 6 of the California MUTCD, and Sections 12, "Temporary Traffic Control", of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

12-1.01 MAINTAINING TRAFFIC

Attention is directed to Part 6 of the California MUTCD, Sections 7-1.03, "Public Convenience", 7-1.04, "Public Safety", Section 12-4 “Maintaining Traffic”, of the Caltrans Specifications, and Section 10-1.01, "Order of Work", of these Special Provisions. Nothing in these Special Provisions shall be construed as relieving the Contractor from the responsibilities specified in these sections.

The Contractor shall furnish, and maintain in good working order, all barricades and flashers, and provide flaggers as necessary to protect pedestrians, bicyclists, and vehicular traffic. The Contractor shall furnish and maintain all barricades, flashers, and any detour signs twenty-four (24) hours a day, including covering or removing signs during non-construction hours.

The Contractor shall provide adequate and continuous ingress and egress for all adjacent properties; except for the limited period of time it is necessary to perform work at a specific property. The Contractor shall diligently prosecute all work directly impacting businesses to completion. The Contractor shall coordinate limited closures with tenants or owners, as required by these Special Provisions, and as directed by the Engineer. The Contractor shall cover signal heads with traffic jackets, signs and other traffic control devices that may conflict with any detours.

The Contractor shall submit to the City Engineer a detailed "Traffic Control Plan" for review and approval. The "Traffic Control Plan" shall be submitted no later than ten (10) working days following the Notice to Proceed date and at least 3 working days prior to commencing any work which requires implementation of any component of the "Traffic

Control Plan". The plan shall be approved by the Engineer prior to its implementation by the Contractor.

The "Traffic Control Plan" shall conform to the typical traffic control details included in the Caltrans Plans, Part 6 of the California MUTCD, and the requirements of Section 12-1.02, "Traffic Control System for Lane Closure", of these Special Provisions. The Traffic Control Plan shall include, but not be limited to, detailed requirements for the following:

- Traffic control devices, including signs and markings.
- Construction routes, phasing and/or staging of both the roadway and sidewalk areas.
- Employee, Customer, and Business/Delivery access to adjacent property.
- Emergency vehicles access.
- Bus, refuse collection, and mail delivery access.
- Any parking zones to be removed on a temporary basis.
- Pedestrian and bicyclist access.

The Traffic Control Plan shall consider the impacts of changes in traffic volumes and capacities related to the construction activities, and their impact on vehicular and bicycle traffic and pedestrian operations, on roadway pavements, including provisions to restore construction-damaged pavements.

Traffic Lane and Sidewalk Closures

Lanes and sidewalks may be closed only as indicated in the Section 12, of these Special Provisions. Except for work required under Section 7-1.03 ”Public Convenience” and Section 7-1.04, ”Public Safety” of the Standard Specifications, work that interferes with public traffic shall be performed only as indicated. Traffic lane and sidewalk closures shall conform to the following requirements:

Lane closure, a maximum of one lane in each direction of travel, not less than twelve (12) feet wide, shall be permitted only between the hours of 9:00 a.m. and 3:30 p.m. Any lane closures other than specified shall be approved by the Engineer.

Standard working hours shall be 9:00 a.m. to 5:00 p.m. Any extended working hours require the approval of the Engineer.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders, including any section closed to public traffic.

Adequate ingress and egress shall be maintained throughout the project limits for fire, police, and other emergency vehicles. The Contractor shall provide adequate ingress and egress for residences, property owners, and abutting business owners to their respective properties except when performing work at their specific locations.

Also, the Contractor shall provide adequate signing, barricades and flashers or portable flashing beacons, flaggers, and other equipment and personnel necessary to adequately control and direct traffic in a safe manner. The Contractor shall maintain all barricades,

flashers and detour signs twenty-four (24) hours a day, including covering signs during non-construction hours. The Contractor shall also provide the City with the names and telephone numbers of three (3) representatives available at all times.

Except as otherwise allowed by the Engineer, ”long term” and temporary closures shall be removed and the full width of the traveled way shall be open for use by public traffic when construction operations are not actively in progress during the working period or successive working periods.

The contractor shall provide for pedestrian and wheelchair access to at least one (1) intersection corner within each block and the abutting sidewalk facilities along each block, at all times. Simultaneous closure of both intersection corners to pedestrian traffic within the same block is not allowed.

The contractor shall maintain at least one (1) north/south crosswalk and one (1) east/west crosswalk open to pedestrian and wheelchair access, where exists, at each intersection at all times.

Whenever Contractor's vehicles or equipment are parked within six (6) feet of a traffic lane, the area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the traffic lane at twenty-five (25) foot intervals to a point not less than twenty-five (25) feet past the last vehicle or piece of equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) sign shall be mounted on a portable sign stand with flags. The sign shall be placed where directed by the Engineer.

Temporary Pedestrian Access Routes
Attention is directed to Section 12-4.04, “Temporary Pedestrian Access Routes” of the updated Caltrans Specification and these Special Provisions.

When a pedestrian circulation path is temporarily closed by construction, alterations, maintenance operations, or other conditions, contractor shall submit a work plan for a temporary pedestrian access route complying with Caltrans Specification Section 12-4.04A(3) and sections 6D.01, 6D.02, and 6G.05 of the MUTCD, and State Standard plans T30, T31, T32, T33, and T34 shall be provided. The work plan must Be sealed and signed by an engineer who is registered as a civil engineer in the State

Whenever possible work should be done in a manner that does not create a need to detour pedestrians from existing pedestrian routes. Extra distance and additional pedestrian street crossings add complexity to a trip and increase exposure of risk to accidents. The alternate pedestrian routes shall be accessible and detectable, including warning pedestrians who are blind or have low vision about sidewalk closures. Proximity-actuated audible signs are a preferred means to warn pedestrians who are blind or have low vision about sidewalk closures.

The surface shall be skid-resistant and free of irregularities. Pedestrian walkways shall

be maintained in good condition, and shall be suitable for wheelchair use. Walkways shall be kept clear of obstructions.

The Contractor shall cause the least possible disruption to the affected properties and restore suitable pedestrian access immediately following completion of the active work in progress.

At least one (1) continuous walkway along one (1) side of the street shall be available at all times. At locations where work is actively in progress, the pedestrian walkway within a single block may be temporarily closed at one (1) end of the block along one (1) side of the street. Pedestrians shall be rerouted to the walkway on the opposite side of the street.

Minor deviations from the requirements of this section, which do not significantly change the cost of the work, may be permitted upon the written request of the Contractor if, in the opinion of the Engineer, public traffic will be better served and the work expedited. These deviations shall not be adopted by the Contractor until the Engineer has approved them in writing. All other modifications will be made by contract change order.

12-1.02 TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE

A traffic control system shall consist of closing traffic lanes in accordance with the details shown on the plans, the provisions of Section 12, "Temporary Traffic Control", of the Caltrans Specifications, and Standard Specifications, and these Special Provisions.
The provisions in this section will not relieve the Contractor from the responsibility to provide additional devices or take the measures that may be necessary to comply with the provisions in Section 7-1.04, "Public Safety", of the Standard Specifications and these Special Provisions.

During traffic striping operations and pavement marker placement operations using bituminous adhesive, traffic shall be controlled, at the option of the Contractor, with either stationary or moving type lane closures. During all other operations, traffic shall be controlled with stationary type lane closures. The Contractor's attention is directed to the provisions in Sections 84-2.03, "Construction", of the Caltrans Specifications.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the Contractor shall immediately repair the component to its original condition or replace the component, and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled way and shoulder. If the Contractor so elects, the components may be stored at selected central locations, approved by the Engineer, within the limits of the highway right-of-way.

Each vehicle used to place, maintain, and remove components of a traffic control system shall be equipped with a Type II flashing arrow sign, which shall be in operation when the vehicle is being used for placing, maintaining, or removing the components. Vehicles

equipped with Type II flashing arrow signs not involved in placing, maintaining, or removing the components when operated within a stationary type lane closure shall only display the caution display mode. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining, and removing of components of a traffic control system, and shall be in place before a lane closure requiring its use is completed.

The Contractor shall pay fully the cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic.

Attention is directed to Part 6 of the California MUTCD. Nothing in these Special Provisions shall be construed as relieving the Contractor from his responsibility as provided in Part 6 of California MUTCD.

Full compensation for furnishing all labor (including flagging costs), materials (including signs), tools, equipment, and incidentals, and for doing all the work involved in lane closures, including placing, removing, storing, maintaining, moving to new locations, replacing, and disposing of the components of the traffic control system, as shown on the plans, as specified in the Caltrans Specifications and these Special Provisions, and as directed by the Engineer, shall be included in the lump sum price paid for “Traffic Control System”, and no additional work compensation will be allowed therefor.

Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the Engineer and will be made on the basis of the cost of the increased or decreased traffic control necessary.

12-1.03 TYPE K TEMPORARY RAILING

The Contractor shall install temporary railing (Type K) between a lane open to public traffic and an excavation, obstacle, or storage area when the following conditions exist:

A. Excavations - the near edge of the excavation is twelve (12) feet or less from the edge of the lane, except:

    1. Excavations covered with sheet steel or concrete covers of adequate thickness to prevent accidental entry by traffic or the public.
    2. Excavations less than one (1) foot deep.
    3. Trenches less than one (1) foot wide for irrigation pipe or electrical conduit, or excavations less than one (1) foot in diameter.
    4. Excavations parallel to the lane for the purpose of pavement widening or reconstruction.
    5. Excavations in side slopes, where the slope is steeper than 1:4 (vertical:horizontal).
    6. Excavations protected by existing barrier or railing.

B. Temporarily Unprotected Permanent Obstacles - the work includes the installation of a fixed obstacle together with a protective system, such as a sign structure

together with protective railing, and the Contractor elects to install the obstacle prior to installing the protective system; or the Contractor, for the Contractor's convenience and with permission of the Engineer, removes a portion of an existing protective railing at an obstacle and does not replace such railing complete in place during the same day.

C. Storage Areas - material or equipment is stored within twelve (12) feet of the lane and the storage is not otherwise prohibited by the provisions of the Standard Specifications and these Special Provisions.

The approach end of temporary railing, installed in conformance with the provisions in this section, "Public Safety", and in Section 7-1.04, "Public Safety", of the Caltrans Specification, shall be offset a minimum of fifteen (15) feet from the edge of an open traffic lane. The temporary railing shall be installed on a skew toward the edge of the traffic lane of not more than one (1) foot transversely to ten (10) feet longitudinally with respect to the edge of the traffic lane.

If the fifteen (15) feet minimum offset cannot be achieved, the temporary railing shall be installed on the 10 to 1 skew to obtain the maximum available offset between the approach end of the railing and the edge of the traffic lane, and an array of temporary crash cushion modules shall be installed at the approach end of the temporary railing.

Temporary Railing shall conform to the provisions in Section 12-3.20, "Type K Temporary Railing", of the Caltrans Specifications. Temporary Railing, conforming to the details shown on Caltrans Standard Plan T3A and T3B, may be used.

12-1.04 TEMPORARY PAVEMENT DELINEATION

Temporary pavement delineation shall be furnished, placed, maintained, and removed in conformance with the provisions in Section 12-6 “Temporary Pavement Delineation” of the Caltrans Specifications and these Special Provisions. Nothing in these Special Provisions shall be construed as reducing the minimum standards specified in the California MUTCD or as relieving the contractor from the responsibilities specified in Section 7-1.04, “Public Safety”, of the Caltrans Specifications, Standard Specifications, and these Special Provisions. Whenever the work causes obliteration of existing pavement delineation, temporary or permanent pavement delineation shall be in place prior to opening the traveled way to public traffic. Laneline or centerline pavement delineation shall be provided at all times for traveled ways open to public traffic.

The Contractor shall perform the work necessary to establish the alignment of temporary pavement delineation, including required lines or marks. Surfaces to receive temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with a new pattern of temporary pavement delineation or permanent pavement delineation.

Temporary pavement markers, including underlying adhesive and removable traffic tapes

which are applied to the final layer of surfacing or existing pavement to remain in place or which conflicts with a subsequent or new traffic pattern for the area, shall be removed when no longer required for the direction of public traffic, as determined by the Engineer.

12-1.05 CONSTRUCTION AREA AND INFORMATIONAL SIGNS

Construction area and informational signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, "Temporary Traffic Control", of the Caltrans Specifications, Standard Specifications, and these Special Provisions.

The Contractor shall at least; install one (1) Phase 1 project funding signs, per Sheet C6.1, Detail 1; and install one (1) Phase 2 project funding signs, per Sheet C6.1, Detail 2. Location of the signs shall be per Plan.

The Contractor shall notify the appropriate regional notification center for operators of subsurface installations at least two (2) working days, but not more than fourteen (14) calendar days, prior to commencing any excavation for all the sign posts.

All excavations required to install all the signs shall be performed by hand methods without the use of power equipment, except that power equipment may be used if it is determined there are no utility facilities in the area of the proposed post holes. The post hole diameter, if backfilled with Portland cement concrete shall be at least 4 inches greater than the longer dimension of the post cross section.

Sign substrates for stationary mounted construction informational signs may be fabricated from fiberglass reinforced plastic, as specified under "Pre-qualified and Tested Signing and Delineation Materials" elsewhere in these Special Provisions.

Type IV reflective sheeting for sign panels for portable signs shall conform to the requirements specified under "Pre-qualified and Tested Signing and Delineation Materials" elsewhere in these Special Provisions.

The Contractor shall maintain accurate information on the signs. Signs that are no longer required shall be immediately covered and removed. Signs that convey inaccurate information shall be immediately replaced or the information shall be corrected. Covers shall be replaced when they no longer cover the signs properly. The Contractor shall immediately restore to the original position and location any sign that is displaced or overturned, from any cause during the progress of work.

12-1.06 MAINTAINING EXISTING AND TEMPORARY ELECTRICAL SYSTEMS

Maintaining existing electrical systems and communication systems shall conform to the provisions of Section 87, “Electrical Systems," of the Caltrans Specifications and these Special Provisions. Existing traffic signal systems and communication systems shall be kept in effective operation for the benefit of the traveling public during the progress of the work, except when shut down is permitted. The traffic signal shutdowns shall be limited to the hours of 9:00 a.m. to 3:30 p.m., and shall be permitted only during the switch over from existing to new controller operation, unless prior approval is obtained from the

Engineer. Contractor required to obtain authorization at least three (3) working days before interrupting communication between an existing system and the traffic management center (TMC).

Temporary standards with signal equipment may be required during the construction of the new installation. The Contractor shall provide temporary equipment if deemed necessary by the Contractor or Engineer. The cost of the temporary systems shall be included in the lump sum price paid for the various contract items of work involved and no additional compensation shall be allowed therefor.

12-1.07 BARRICADES AND CHANNELIZERS

Barricades shall be furnished, placed and maintained at the locations shown on the approved Traffic Control Plan (TCP), specified in Part 6 of the California MUTCD, in the Standard Specifications or in these Special Provisions or where designated by the Engineer. Barricades shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications and these Special Provisions.

Attention is directed to Section 6-1.07 "Pre-qualified and Tested Signing and Delineation Material" of these special provisions regarding retroreflective sheeting for barricades.

Construction area sign and marker panels conforming to the provisions in Part 6 of the California MUTCD and Section 12, “Temporary Traffic Control,” of the Caltrans Specifications, Standard Specifications, and these Special Provisions shall be installed on barricades in a manner determined by the Engineer at the locations shown on the plans and the TCP. Where provided, pedestrian barricades and channelizing devices shall comply with sections 6F.63, 6F.68, and 6F.71 of the MUTCD.

Channelizers shall conform to the provisions in Section 12, "Temporary Traffic Control," of the Standard Specifications, Caltrans Specifications, and these special provisions.

Channelizers shall conform to the provisions in Section 6-1.07 "Pre-qualified and Tested Signing and Delineation Material" of these Special Provisions.

At the time of completion of the project, certain channelizers shall be left in place as determined by the Engineer.

When no longer required for the work as determined by the Engineer, channelizers (except channelizers to be left in place) and underlying adhesive used to cement the channelizer bases to the pavement shall be removed. Removed channelizers and adhesive shall become the property of the Contractor and shall be removed from the site of work.

12-1.08 PAYMENT

Full compensation for all work under Section 12, “Temporary Traffic Control”, shall be considered as included in the lump sum price paid for “Traffic Control Detours and Access”, and no additional work compensation will be allowed therefore.

SECTION 13 – WATER POLLUTION CONTROL

13-1.01 GENERAL

Attention is directed to Sections 13, "Water Pollution Control", of the Caltrans Specifications, Section 100-1.08, “Violations,” of the Standard Specifications, these Special Provisions, and as directed by the Engineer.

Discharges of storm water from the project must comply with NPDES General Permit for "Storm Water Discharges Associated with Construction and Land Disturbance Activities" (Order No. R5-2016-0040, NPDES NO. CAS0085324) hereinafter called the "Permit." Manage work activities to reduce the discharge of pollutants to surface waters, groundwater, or municipal separate storm sewer systems including work items shown in the Bid Item List for:

1. Prepare Storm Water Pollution Prevention Plan. SWPPP preparation includes obtaining SWPPP approval, amending the SWPPP, preparing a CSMP and a SAP, and monitoring and inspecting WPC practices at the job site.

2. Storm Water Annual Report. Storm Water Annual Report preparation includes certifications, monitoring and inspection results, and obtaining Storm Water Annual Report acceptance.

3. Storm Water Sampling and Analysis Day. Storm Water Sampling and Analysis Day includes reporting of storm water quality per qualifying rain event. If specified for the risk level, the work includes preparation, collection, analysis, and reporting of storm water samples for turbidity, pH, and other constituents.

4. Rain Event Action Plan. If specified for the project risk level, REAP preparation includes preparing and submitting REAP forms and monitoring weather forecasts.

Do not start work until:

1. SWPPP is approved.
2. WDID is issued.
3. SWPPP review requirements have been fulfilled. If the RWQCB requires time for SWPPP review, allow 30 days for the RWQCB to review the SWPPP as specified under "Submittals" of these special provisions.

The Contractor shall confirm the Risk Level as part of their SWPPP preparation.

Definitions and Abbreviations

active and inactive areas: (1) Active areas have soil disturbing work activities occurring at least once within 14 days, and (2) Inactive areas are areas that have not been disturbed for at least 15 days.

BMPs: Best Management Practices are water pollution control practices.

construction phase: Construction phases are (1) Highway Construction including work activities for building roads and structures, (2) Plant Establishment

including maintenance on vegetation installed for final stabilization, and (3) Suspension where work activities are suspended and areas are inactive.
CGP: Construction General Permit
CSMP: Construction Site Monitoring Program.
LRP: Legally Responsible Person.
NAL: Numeric Action Level.
NEL: Numeric Effluent Limit.
NPDES: National Pollutant Discharge Elimination System.
NOI: Notice of Intent.
NOT: Notice of Termination
normal working hours: The hours you normally work on this project.
Preparation Manual: The Department's "Storm Water Pollution Prevention Plan and Water Pollution Control Program Preparation Manual."
PRDs: Permit Registration Documents
QSD: Qualified SWPPP Developer.
QSP: Qualified SWPPP Practitioner.
qualified rain event: A qualified rain event is a storm that produces at least 0.5 inch of precipitation with a 48 hour or greater period between storms.
REAP: Rain Event Action Plan.
RWQCB: Regional Water Quality Control Board.
SAP: Sampling and Analysis Plan.
SMARTS: Storm Water Multi-Application Report Tracking System
SSC: Suspended Sediment Concentration.
SWRCB: State Water Resources Control Board.
SWPPP: Storm Water Pollution Prevention Plan.
WDID: Waste Discharge Identification Number.
WPC: Water Pollution Control.
WPC Manager: Water Pollution Control Manager. The WPC Manager implements water pollution control work described in the SWPPP and oversees revisions and amendments to the SWPPP.

Submittals

Within 5 days after contract approval, the Contractor shall hire a QSD/QSP to create a SWPPP and input data into the SMARTS system throughout the duration of the project, who shall be responsible for the following process for SWPPP approval:

1. Submit 3 copies of the SWPPP, including PRDs, and allow 10 days for the Engineer's review. If revisions are required, the Engineer provides comments and specifies the date that the review stopped.
2. Change and resubmit the SWPPP, including PRDs, within 5 days of receipt of the Engineer's comments. The Engineer's review resumes when the complete SWPPP is resubmitted.
3. When the Engineer approves the SWPPP, electronically certify and submit the Engineer-approved SWPPP using SMARTS.
4. If the SWRCB requests changes to the SWPPP, amend the SWPPP within 5 days.

Submit:

1. Storm water training records including training dates and subjects for employees and subcontractors. Include dates and subjects for ongoing training, including tailgate meetings.
2. Employee training records:

    2.1. Within 5 days of SWPPP approval for existing employees
    2.2. Within 5 days of training for new employees
    2.3. At least 5 days before subcontractors start work for subcontractor's employees

Prepare a Storm Water Annual Report for the reporting period from July 1st to June 30th. For the prior reporting period, submit the report no later than July 15th if construction occurs from July 1st through June 30th or within 15 days after contract acceptance if construction ends before June 30th.
Submit the Storm Water Annual Report as follows:

1. Submit 2 copies of the Storm Water Annual Report and allow 10 days for the Engineer's review. If revisions are required, the Engineer provides comments and specifies the date that the review stopped.
2. Change and resubmit the Storm Water Annual Report within 5 days of receipt of the Engineer's comments. The Engineer's review resumes when the complete Storm Water Annual Report is resubmitted.
3. When the Engineer accepts the Storm Water Annual Report, insert the WPC Manager's signed certification and the Engineer's signed certification.

Submit one electronic copy and 2 printed copies of the accepted Storm Water Annual Report.
Submit as required:

1. NAL Exceedance Reports
2. NEL Exceedance Reports
3. Visual Monitoring Reports
4. Inspection Reports
5. BMP Status Report

At least 5 days before operating any construction support facility, submit:

1. A plan showing the location and quantity of WPC practices associated with the construction support facility
2. A copy of the NOI approved by the RWQCB and the SWPPP approved by the RWQCB if you will be operating a batch plant or a crushing plant under the General Industrial Permit.

Submit a NOT within 90 days of when construction is complete as follows:

1. Submit electronic photos representative of the site, along with a site map identifying the locations of the photos, showing final stabilization. The NOT shall demonstrate that final stabilization is attained by one of the

following methods as outlined in the CGP: (a) 70% final cover method, (b) RUSLE or RUSLE 2 method, or (c) custom method.

2. Change and resubmit the Storm Water Annual Report within 5 days of receipt of the Engineer's comments. The Engineer's review resumes when the complete Storm Water Annual Report is resubmitted.
3. When the Engineer accepts the Storm Water Annual Report, insert the WPC Manager's signed certification and the Engineer's signed certification.

Quality Control and Assurance

Training

Provide storm water training for:

1. Project managers
2. Supervisory personnel
3. Employees involved with WPC work

Train all employees, including subcontractor's employees, in the following subjects:

1. WPC rules and regulations
2. Implementation and maintenance for:

    2.1. Temporary Soil Stabilization
    2.2. Temporary Sediment Control
    2.3. Tracking Control
    2.4. Wind Erosion Control
    2.5. Material pollution prevention and control
    2.6. Waste management
    2.7. Non-storm water management
    2.8. Identifying and handling hazardous substances
    2.9. Potential dangers to humans and the environment from spills and leaks or exposure to toxic or hazardous substances

Employees must receive initial WPC training before working on the job site.
Conduct weekly training meetings covering:

1. WPC BMP deficiencies and corrective actions
2. BMPs that are required for work activities during the week
3. Spill prevention and control
4. Material delivery, storage, use, and disposal
5. Waste management
6. Non-storm water management procedures

Training for personnel to collect water quality samples must include:

1. SAP review
2. Health and safety review
3. Sampling simulations

If you operate construction support facilities, protect storm water systems or receiving waters from the discharge of potential pollutants by using WPC practices. Construction support facilities include:

1. Staging areas
2. Storage yards for equipment and materials
3. Mobile operations
4. Batch plants for PCC and HMA
5. Crushing plants for rock and aggregate
6. Other facilities installed for your convenience such as haul roads

If you operate a batch plant to manufacture PCC, HMA, or other material; or a crushing plant to produce rock or aggregate; obtain coverage under the General Industrial General Permit. You must be covered under the General Industrial Permit for batch plants and crushing plants located:

1. Outside of the job site
2. Within the job site that serve one or more contracts

Discharges from manufacturing facilities such as batch plants must comply with the general waste discharge requirements for Order No. 2014-0057-DWQ, issued by the SWRCB for "Storm Water Discharges Associated with Industrial Activities." For the General Industrial Permit, go to:
http://www.waterboards.ca.gov/

You may obtain copies of the Preparation Manual from the Publication Distribution Unit. The mailing address for the Publication Distribution Unit is:
California Department of Transportation
Publication Distribution Unit
1900 Royal Oaks Drive
Sacramento, California 95815
Telephone: (916) 263-0822

The Preparation Manual and other WPC references are available at the Department's "Construction Storm Water and Water Pollution Control" Web site. For the Web site, go to:
http://www.dot.ca.gov/hq/construc/stormwater/

Water Pollution Control Manager

Assign one WPC Manager to implement the SWPPP. The WPC Manager must comply with the Permit qualifications for a QSP and a QSD. You may assign a different QSD to prepare the SWPPP.

The QSD must have the following qualifications:

1. Department approved storm water management training described in the Department's "Construction Storm Water and Water Pollution Control" web site
2. Registration or certification described in the Permit

The QSP must meet the qualifications of the QSD or have the following certifications:

1. Department approved storm water management training described in the Department's "Construction Storm Water and Water Pollution Control" web site
2. Certification described in the Permit

At the job site, the WPC Manager must:

1. Be responsible for WPC work
2. Be the primary contact for WPC work
3. Oversee the maintenance of WPC practices
4. Oversee and enforce hazardous waste management practices
5. Have the authority to mobilize crews to make immediate repairs to WPC practices
6. Ensure that all employees have current water pollution control training
7. Implement the approved SWPPP and amend the SWPPP when required

WPC Manager must oversee:

1. Inspections of WPC practices identified in the SWPPP
2. Inspections and reports for visual monitoring
3. Preparation and implementation of REAPs
4. Sampling and analysis
5. Preparation and submittal of:

    5.1. NAL exceedance reports
    5.2. NEL exceedance reports
    5.3. SWPPP annual certification
    5.4. Annual reports
    5.5. BMP status reports

STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

General

SWPPP work includes preparing a SWPPP including a CSMP, obtaining SWPPP approval, amending the SWPPP, inspecting and reporting on WPC practices at the job site. The SWPPP must comply with the Preparation Manual and the Permit. The SWPPP must be submitted in place of the water pollution control program under Section 13, "Water Pollution Control," of the Standard Specifications.

You may request, or the Engineer may order, changes to the WPC work. Changes may include the addition of new WPC practices. Additional WPC work will be paid for as extra work under Section 5-1.13, "Extra Work," of these Special Provisions. The SWPPP must include sections as specified for the project risk level as follows:

1. For risk level 1:

    1.1. Schedule

1.2. CSMP

2. For risk level 2:

   2.1. Schedule
   2.2. CSMP
   2.3. Adherence to Effluent Standards for NALs
   2.4. REAP

3. For risk level 3:

   3.1. Schedule
   3.2. CSMP
   3.3. Adherence to Effluent Standards for NALs and NELs
   3.4. REAP

The SWPPP must include WPC practices for:

1. Storm water and non-stormwater from areas outside of the job site related to project work activities such as:

   1.1. Staging areas
   1.2. Storage yards
   1.3. Access roads

2. Activities or mobile operations related to contractor obtained NPDES permits
3. Construction support facilities

The SWPPP must include a copy of permits obtained by the Department such as Fish & Game permits, US Army Corps of Engineers permits, RWQCB 401 Certifications, and RWQCB Waste Discharge Requirements for Aerially Deposited Lead Reuse.
Amend the SWPPP annually and resubmit it by July 15th.
Amend the SWPPP if:

1. Changes in work activities could affect the discharge of pollutants
2. WPC practices are added by change order work
3. WPC practices are added at your discretion
4. Changes in the amount of disturbed soil are substantial
5. Objectives for reducing or eliminating pollutants in storm water discharges have not been achieved
6. There is a Permit violation

Whenever you amend the SWPPP, follow the same process specified for SWPPP approval.
Retain a printed copy of the approved SWPPP at the job site.

SWPPP Schedule

The SWPPP schedule must:

1. Describe when work activities will be performed that could cause the discharge of pollutants into storm water
2. Describe WPC practices associated with each construction phase
3. Identify soil stabilization and sediment control practices for disturbed soil areas

Construction Site Monitoring Program (CSMP)

General

The QSD must prepare a CSMP as part of the SWPPP. The CSMP must be developed before starting work and be revised to reflect current construction activities as necessary.

The CSMP must include sections for the project risk level as follows:

1. For risk level 1:

    1.1. Visual Monitoring
    1.2. SAP for Non-Visible Pollutants

2. For risk level 2:

    2.1. Visual Monitoring
    2.2. SAP for Non-Visible Pollutants
    2.3. SAP for sediment and turbidity
    2.4. SAP for pH

3. For risk level 3:

    3.1. Visual Monitoring
    3.2. SAP for Non-Visible Pollutants
    3.3. SAP for sediment and turbidity
    3.4. SAP for pH
    3.5. SAP for receiving waters
    3.6. SAP for temporary active treatment systems

Visual Monitoring

The WPC Manager must oversee the performance of visual inspections for qualifying rain events.

For each qualifying rain event, perform visual inspections and record observations during normal working hours as follows:

1. Record the time, date, and rain gauge reading
2. Observe:

    2.1. Within 2 days before the storm:

2.1.1. Drainage areas for spills, leaks, or uncontrolled pollutants
2.1.2. Proper implementation of WPC practices
2.1.3. Storm water storage areas for leaks and adequate freeboard

2.2. Every 24 hours during the storm:

2.2.1. WPC practices for effective operation
2.2.2. WPC practices needing maintenance and repair

2.3. Within 2 days after the storm event:

2.3.1. Discharge locations
2.3.2. WPC practices to evaluate the design, implementation, and effectiveness
2.3.3. To identify where additional WPC practices may be needed

Perform non-stormwater discharge visual inspections as follows:

1. At least once during each of the following periods:

   1.1. January through March
   1.2. April through June
   1.3. July through September
   1.4. October through December

2. Observe flowing and contained storm water for the presence of floating and suspended materials, sheen on the surface, discoloration, turbidity, odors, and sources of observed pollutants
3. Observe the job site for the presence of authorized and unauthorized non-stormwater discharges and their sources

The WPC Manager must prepare visual inspection reports that include the following:

1. Name of personnel performing the inspection, inspection date, and date inspection report completed
2. Storm and weather conditions
3. Locations and observations
4. Corrective actions taken

Maintain visual inspections reports at the job site as part of the SWPPP.

Sampling and Analysis Plan (SAP)

General

Include a SAP in the CSMP to monitor the effectiveness of WPC practices.
The SAP must comply with the Preparation Manual.

Assign trained personnel to collect water quality samples. Document their training in the SAP.
Describe the following water quality sampling procedures in the SAP:

1. Sampling equipment
2. Sample preparation
3. Collection
4. Field measurement methods
5. Analytical methods
6. Quality assurance and quality control
7. Sample preservation and labeling
8. Collection documentation
9. Sample shipping
10. Chain of custody
11. Data management and reporting
12. Precautions from the construction site health and safety plan
13. Laboratory selection and certifications

Whenever assigned field personnel take samples, comply with the equipment manufacturer's recommendation for collection, analysis methods, and equipment calibration.
Samples taken for laboratory analysis must follow water quality sampling procedures and be analyzed by a State-certified laboratory under 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants."
The SAP must identify the State-certified laboratory, sample containers, preservation requirements, holding times, and analysis method. For a list of State-certified laboratories, go to:
https://www.waterboards.ca.gov/drinking_water/certlic/labs/
Include procedure for sample collection during precipitation.
Retain water quality sampling documentation and analytical results with the SWPPP at the job site
Show pollutant sampling locations on SWPPP drawings.
If discharges or sampling locations change because of changed work activities or knowledge of site conditions, amend the SAP.
If the project is risk level 2 or risk level 3, include procedures for collecting and analyzing at least 3 samples for each day of each qualifying rain event. Describe the collection of effluent samples at all locations where the storm water is discharged off-site.

Analytical Results and Evaluation

Submit an electronic copy (in file format .xls, .txt, .csv, .dbs, or .mdb) and a printed copy of water quality analytical results, and quality assurance and quality control within 48 hours of field analysis sampling, and within 30 days for laboratory analysis. Also provide an evaluation of whether the downstream samples show levels of the tested parameter that are higher than the control sample.

Electronic water quality analysis results must have the following information:

1. Sample identification number
2. Contract number
3. Constituent
4. Reported value
5. Analytical method
6. Method detection limit
7. Reported limit

SAP for Non-Visible Pollutants

The SAP must include a description of the sampling and analysis strategy for monitoring non-visible pollutants.

The SAP must identify potential non-visible pollutants present at the job site associated with any of the following:

1. Construction materials and waste
2. Existing contamination due to historical site usage
3. Application of soil amendments, including soil stabilization materials, with the potential to change pH or contribute toxic pollutants to storm water

SWPPP drawings must show the locations planned for storage and use of potential non-visible pollutants.

The SAP must include sampling procedures for the following conditions when observed during a storm water visual inspection. For each of the following, collect at least one sample for each qualifying storm event:

1. Materials or waste containing potential non-visible pollutants that are not stored under watertight conditions.
2. Materials or waste containing potential non-visible pollutants that are stored under watertight conditions, but a breach, leakage, malfunction, or spill is observed; the leak or spill has not been cleaned up before precipitation; and material or waste could discharge non-visible pollutants to surface waters or drainage system.
3. Chemical applications, including fertilizer, pesticide, herbicide, methyl methacrylate concrete sealant, or non-pigmented curing compound used during precipitation or within 24 hours preceding precipitation, and could discharge pollutants to surface waters or drainage system.
4. Applied soil amendments, including soil stabilization materials that could change pH levels or contribute toxic pollutants to storm water runoff and discharge pollutants to surface waters or drainage system, unless available independent test data indicates acceptable concentrations of non-visible pollutants in the soil amendment.
5. Storm water runoff from an area contaminated by historical usage of the site that could discharge pollutants to surface waters or drainage systems.

The SAP must provide sampling procedures and schedule for:

1. Sample collection during the first 2 hours of each rain event that generate runoff
2. Sample collection during normal working hours
3. Each non-visible pollutant source
4. Uncontaminated control sample

The SAP must identify locations for sampling downstream and control samples, and reasons for selecting those locations. Select control sample locations where the sample will not come in contact with materials, waste, or areas associated with potential non-visible pollutants or disturbed soil areas.

SAP for Sediment and Turbidity

If the project is risk level 2 or risk level 3, sample and analyze for turbidity:

Parameter	Test Method	Detection Limit (Min)	Unit
Turbidity	Field test with calibrated portable instrument	1	NTU

If the project is risk level 3 and the turbidity NEL has been exceeded, sample and analyze for SSC:

Parameter	Test Method	Detection Limit (Min)	Unit
SSC	ASTM Method D3977-97	5	Mg/L

SAP for pH

If the project is risk level 2 or risk level 3, sample and analyze for pH:

Parameter	Test Method	Detection Limit (Min)	Unit
pH	Field test with calibrated portable instrument	0.2	pH units

SAP for Receiving Waters

If the project is risk level 3, describe procedures for obtaining samples from representative and accessible locations:

1. Upstream of the discharge point
2. Downstream of the discharge point

Show receiving water sampling locations on SWPPP drawings.

If there are several discharge points, describe procedures for obtaining samples from a single upstream and a single downstream location.

Rain Event Action Plan (REAP)

REAP work includes preparing and submitting REAP forms and monitoring weather forecasts. The WPC Manager must submit a REAP to protect the job site at least 48 hours before a predicted rain event.

Prepare a REAP when the National Weather Service is predicting at least a 50 percent probability of precipitation within 72 hours.

For the REAP, use approved forms and include:

1. Site location
2. Risk level
3. Contact information including 24-hour emergency phone numbers for:

    3.1. WPC Manager
    3.2. Erosion and sediment control providers or subcontractors
    3.3. Storm water sampling providers or subcontractors

4. Storm Information
5. Construction phase information for:

    5.1. Highway Construction including active and inactive areas for work activities for building roads and structures
    5.2. Plant Establishment including maintenance on vegetation installed for final stabilization where areas are inactive

5.3. Suspension where work activities are suspended and areas are inactive

6. Construction phase information including:

6.1. Construction activities
6.2. Subcontractors and trades on the job site
6.3. Pre-storm activities including:

6.3.1. Responsibilities of the WPC Manager
6.3.2. Responsibilities of the crew and crew size
6.3.3. Stabilization for active and inactive disturbed soil areas
6.3.4. Stockpile management
6.3.5. Corrective actions taken for deficiencies identified during pre-storm visual inspection

6.4. Activities to be performed during storm events including:

6.4.1. Responsibilities of the WPC Manager
6.4.2. Responsibilities of the crew and crew size
6.4.3. BMP maintenance and repair

6.5. Description of flood contingency measures

You must have the REAP onsite at least 24 hours before a predicted rain event. A printed copy of each REAP must be at the job site as part of the SWPPP. Implement the REAP including mobilizing crews to complete activities no later than 24 hours before precipitation occurs.

IMPLEMENTATION REQUIREMENTS

SWPPP Implementation

Obtain, install, and maintain a rain gauge at the job site. Observe and record daily precipitation.
Monitor the National Weather Service Forecast Office on a daily basis. For forecasts, go to:
https://www.weather.gov/
Whenever you or the Engineer identifies a deficiency in the implementation of the approved SWPPP:

1. Correct the deficiency immediately, unless the Engineer agrees to a later date for making the correction
2. Correct the deficiency before precipitation occurs

If you fail to correct the deficiency by the agreed date or before the onset of precipitation, the Department may correct the deficiency and deduct the cost of correcting the deficiency from payment.
Continue SWPPP implementation during any temporary suspension of work

activities.
Install WPC practices within 15 days or before predicted precipitation, whichever occurs first.

Numeric Action Levels (NALs)

If the project is risk level 2 or risk level 3, then it is subject to NALs:

Parameter	Test Method	Detection Limit (Min)	Unit	Numeric Action Level
pH	Field test with calibrated portable instrument	0.2	pH units	Lower NAL = 6.5 Upper NAL = 8.5
Turbidity	Field test with calibrated portable instrument	1	NTU	250 NTU

Numeric Effluent Limits (NELs)

If the project is risk level 3, then it is subject to NELs:

Parameter	Test Method	Detection Limit (Min)	Unit	Numeric Effluent Limit
pH	Field test with calibrated portable instrument	0.2	pH units	Lower NEL = 6.0 Upper NEL = 9.0
Turbidity	Field test with calibrated portable instrument	1	NTU	500 NTU

The storm event daily average for storms up to the 5-year, 24-hour storm, must not exceed the NEL for turbidity.
The daily average sampling results must not exceed the NEL for pH.

Storm Water Sampling and Analysis Day

Storm Water Sampling and Analysis Day work includes preparation, collection, analysis, and reporting of storm water samples for turbidity, pH, and other constituents. If the project is risk level 2 or risk level 3, and there is a qualified rain event that produces runoff, comply with the project's SAP for preparation, collection, analysis, and reporting of storm water samples. Collect:

1. Samples for each non-visible pollutant source and a corresponding uncontaminated control sample
2. Samples for turbidity, pH, and other constituents as specified
3. At least 3 samples for each day of each qualifying rain event
4. Samples for all locations where the storm water is discharged off-site

Perform sample collection during:

1. First 2 hours of each qualified rain event that produces runoff
2. Normal working hours

If the project is risk level 3, obtain receiving water samples.
You are not required to physically collect samples during dangerous weather conditions such as flooding or electrical storms.
If downstream samples show increased levels, assess WPC practices, site conditions, and surrounding influences to determine the probable cause for the increase.

Inspection

The WPC Manager must oversee inspections for WPC practices identified in the SWPPP:

1. Before a forecasted storm
2. After precipitation that causes site runoff
3. At 24-hour intervals during extended precipitation
4. On a predetermined schedule, a minimum of once a week

The WPC Manager must oversee daily inspections of:

1. Storage areas for hazardous materials and waste
2. Hazardous waste disposal and transporting activities
3. Hazardous material delivery and storage activities
4. WPC practices specified under "Construction Site Management" of these special provisions

The WPC Manager must use the Storm Water Site Inspection Report provided in the Preparation Manual.
The WPC Manager must prepare BMP status reports that include the following:

1. Location and quantity of installed WPC practices
2. Location and quantity of disturbed soil for the active or inactive areas

Within 24 hours of finishing the weekly inspection, the WPC Manager must submit:

1. Copy of the completed site inspection report
2. Copy of the BMP status report

REPORTING REQUIREMENTS

Storm Water Annual Report

Storm Water Annual Report work includes certifications, monitoring and inspection results, and obtaining Storm Water Annual Report acceptance. The WPC Manager must prepare a Storm Water Annual Report. The report must:

1. Use an approved report format
2. Include project information including description and location
3. Include storm water monitoring information including:

    3.1. Summary and evaluation of sampling and analysis results including laboratory reports
    3.2. Analytical methods, reporting units, detections limits for analytical parameters
    3.3. Summary of corrective actions
    3.4. Identification of corrective actions or compliance activities that were not implemented
    3.5. Summary of violations

3.6. Names of individuals performing storm water inspections and sampling
3.7. Logistical information for inspections and sampling including location, date, time, and precipitation
3.8. Visual observations and sample collection records

4. Include documentation on training for:

4.1. Individuals responsible for NPDES permit compliance
4.2. Individuals responsible for BMP installation, inspection, maintenance, and repair
4.3. Individuals responsible for preparing, revising, and amending the SWPPP

NAL Exceedance Report

If the project is risk level 2 or risk level 3 and an effluent sample exceeds a NAL, notify the Engineer and submit a NAL Exceedance Report no later than 48 hours after the conclusion of the storm event. The report must:

1. Include the following field sampling results and inspections:

1.1. Analytical methods, reporting units, and detection limits
1.2. Date, location, time of sampling, visual observation and measurements
1.3. Quantity of precipitation of the storm event

2. Description of BMPs and corrective actions taken to manage NAL exceedance

NEL Violation Report

If the project is risk level 3 and an NEL is exceeded, notify the Engineer and submit a NEL Violation Report within 6 hours. The report must:

1. Include the following field sampling results and inspections:

1.1. Analytical methods, reporting units, and detection limits
1.2. Date, location, time of sampling, visual observations and measurements
1.3. Quantity of precipitation of the storm event

2. Description of BMPs and corrective actions taken to manage NEL exceedance

If the project is risk level 2 or risk level 3, submit all sampling results to the Engineer no later than 48 hours after the conclusion of a storm event.

PAYMENT

The contract lump sum price paid for prepare storm water pollution prevention plan includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparing, obtaining approval of, and amending the SWPPP and CSMP, inspecting water pollution control practices, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

For projects with 60 working days or less, payments for SWPPP are made as follows:

1. After the Engineer approves the SWPPP, the Department includes up to 75 percent of the bid item price in the monthly progress estimate
2. After contract acceptance, the Department pays for the remaining percentage of the bid item price

For projects with more than 60 working days, payments for SWPPP are made as follows:

1. After the Engineer approves the SWPPP, the Department includes up to 50 percent of the bid item price in the monthly progress estimate
2. The Department pays 40 percent of the bid item price over the life of the contract
3. After contract acceptance, the Department pays for the remaining 10 percent of the bid item

Rain Event Action Plan includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparation and submittal of REAP forms, and monitoring weather forecasts as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The Department does not adjust payment for an increase or decrease in the quantity of rain event action plans submitted. Section 9-1.06, "Changed Quantity Payment Adjustment," of the Caltrans Standard Specifications does not apply.

Storm Water Annual Report includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparation and submittal of Storm Water Annual Report as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The work to complete the final Storm Water Annual Report contract item is excluded from Section 5-1.16, "Acceptance of Contract," of these Special Provisions.

If risk level 2 or 3, the contract price paid for storm water sampling and analysis day includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in preparation, collection, analysis, and reporting of storm water samples per qualifying rain event as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

The Department does not adjust payment for an increase or decrease in the quantity of storm water sampling and analysis day. Section 9-1.06, "Changed Quantity Payment Adjustments," of the Caltrans Standard Specifications does not apply.

You may request or the Engineer may order laboratory analysis of storm water samples. Laboratory analysis of storm water samples will be paid for as extra work under Section 5-1.13, "Extra Work," of these Special Provisions.

The Department does not pay for the preparation, collection, laboratory analysis, and reporting of storm water samples for non-visible pollutants if WPC practices are not implemented before precipitation or if a failure of a WPC practice is not corrected before precipitation.

The Department does not pay for implementation of WPC practices in areas outside the highway right-of-way not specifically provided for in the plans or in the special provisions.

The Department does not pay for WPC practices installed at your construction support facilities.

WPC practices for which there are separate bid items of work are measured and paid for as those bid items of work.

For each failure to submit a completed Storm Water Annual Report, the Department withholds $10,000. This withhold is in addition to other withholds under Section 9-1.16E(3) "Performance Failure Withholds," of the Caltrans Standard Specifications. Each failure to comply with any part of these special provisions and each failure to implement water pollution control practices are considered separate performance failures.

Full compensation for water pollution control shall be considered as included in the lump sum price paid for “Stormwater Pollution BMPs”, and no additional work compensation will be allowed therefore.

SECTION 14 – ENVIRONMENTAL STEWARDSHIP

Attention is directed to Sections 14, "Environmental Stewardship”, of the Caltrans Specifications, these Special Provisions, and as directed by the Engineer.

14-1.01 CONSTRUCTION SITE WASTE MATERIALS MANAGEMENT

Removal of existing traffic stripes and marking shall be per Caltrans Specifications Section 84-9, “Existing Markings”.

Where grinding or other methods approved by the Engineer are used to remove thermoplastic traffic stripes and pavement markings, the removed residue, including dust, shall be tested for lead and chromium content. If the thermoplastic grindings are found to be hazardous, the materials shall be disposed of at a Class 1 facility.

Residue from removing traffic stripes and pavement markings which contains lead from the paint or thermoplastic. The average lead concentrations are less than 1,000 mg/kg

total lead and 5 mg/L soluble lead. This residue:

1. Is a nonhazardous waste
2. Does not contain heavy metals in concentrations that exceed thresholds established by the Health and Safety Code and 22 CA Code of Regs
3. Is not regulated under the Federal Resource Conservation and Recovery Act (RCRA), 42 USC § 6901 et seq.

Submit a lead compliance plan under section 7-1.02K(6)(j)(ii) “Lead Compliance Plan”, of the Caltrans Specifications.

Earth Material Containing Lead
This section includes specifications for handling, removing, and disposing of earth material containing lead.

Submit a lead compliance plan.

If earth material is disposed of:

1. Disclose the lead concentration of the earth material to the receiving property owner when obtaining authorization for disposal on the property
2. Obtain the receiving property owner's acknowledgment of lead concentration disclosure in the written authorization for disposal
3. You are responsible for any additional sampling and analysis required by the receiving property owner

If you choose to dispose of earth material at a commercial landfill:

1. Transport it to a Class III or Class II landfill appropriately permitted to receive the material
2. You are responsible for identifying the appropriately permitted landfill to receive the earth material and for all associated trucking and disposal costs, including any additional sampling and analysis required by the receiving landfill

Soil Handling
Excess soils must be handled as potential hazardous waste, or the excess soils must be tested for concentrations of lead prior to disposal.

Contaminated Soil
Identify contaminated soil from spills or leaks by noticing discoloration, odors, or differences in soil properties. Soil with evidence of contamination must be sampled and tested by a laboratory certified by Environmental Laboratory Accreditation Program (ELAP).

If levels of contamination are found to be hazardous, handle and dispose of the soil as hazardous waste.

Prevent the flow of water, including ground water, from mixing with contaminated soil by using one or a combination of the following measures:

1. Berms
2. Cofferdams
3. Grout curtains
4. Freeze walls
5. Concrete seal course

If water mixes with contaminated soil and becomes contaminated, sample and test the water using a laboratory certified by ELAP. If levels of contamination are found to be hazardous, handle and dispose of the water as hazardous waste.

Upon completion of underground facilities and backfilling of the trenches in each portion of the work, the sub-grade shall be prepared by compacting to a relative compaction of not less than ninety-five (95) percent for a minimum depth of zero point five (0.5) feet below the grading plane (sub-grade plane) for a total width of the area to be paved.

All portland cement concrete flatwork shall be saw-cut a minimum of 3-1/2 inches deep prior to removal. All monolithic portland cement concrete shall be saw-cut a minimum of 8 inches deep prior to removal.

Existing asphalt concrete sections to be removed shall be neatly saw cut two and one-half (2-1/2) inches deep and excavated to a depth of fifteen (15) inches. The vertical edges of the pavement shall be neatly trimmed. All debris shall be removed. The top six inches of the sub-grade shall be compacted to 90% of the maximum density at near optimum moisture content.

Payment

Full compensation for disposing, transporting, testing and preparation of lead compliance plan handling material contaminated, or potentially contaminated with aerially deposited lead, except as otherwise provided, shall be considered as included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Payment for handling, removal, transporting, and disposal of pavement residue that is a nonhazardous waste is included in the prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

14-1.02 AIR POLLUTION CONTROL

Attention is directed to Section 14-9.02 “Air Pollution Control” of the Caltrans Specifications.

Comply with air pollution control rules, regulations, ordinances, and statutes that apply to work performed under the contract, including air pollution control rules, regulations, ordinances, and statures provided in government code 11017 (Pub Cont Code 10231).

Do not burn material to be disposed of.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefor.

14-1.03 DUST CONTROL, APPLY WATER, SITE MAINTENANCE, AND CLEANUP

Dust control shall conform to any requirements set forth in the San Joaquin Valley Air Pollution Control District Construction Notification Form, the provisions in Section 14-9, “Air Quality” of the Caltrans Specifications, and these Special Provisions. Use of water except for recycled, reclaimed, or other non-potable water for the purpose of dust control or other construction uses unless for health or safety purposes is prohibited. All dust control operations shall be performed by the Contractor at the time, location and in the amount ordered by the Engineer. The application of either water or dust palliative shall be under the control of the Engineer at all times." Watering shall conform to the provisions of Section 13 "Water Pollution Control" of the Caltrans Specifications and these Special Provisions. Attention is also directed to Section 18 “Dust Palliatives” of the Caltrans Specifications and these Special Provisions.

During construction, the Contractor shall remove all rubbish and debris as it is generated. Upon completion of the work, the Contractor shall remove all equipment, debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer. A permit shall be obtained from the Municipal Utilities Department, or California Water Service, as applicable, for construction water obtained from City hydrants. This permit shall be approved by the City of Stockton Fire Department.

The Contractor shall conduct and cause all working forces at the site to maintain the site in a neat, orderly manner throughout the construction operations. The work shall be conducted in a manner that will control the dust. When ordered to provide dust control, the Contractor shall use water to reduce the dusty conditions all to the satisfaction of the Engineer. During construction, the Contractor shall remove all rubbish and debris as it is generated. The Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars **($250)** for every calendar day where debris has remained on the job site overnight. Upon completion of the work, the Contractor shall remove all equipment and debris, and shall leave the site in a neat, clean condition all to the satisfaction of the Engineer.

14-1.04 SOUND CONTROL REQUIREMENTS

The Contractor's attention is directed to Section 14-8.02 “Noise Control” of the Caltrans Specifications and the project specific equipment noise control measures listed in Table 8.1 below. Nothing in the Caltrans Specifications or these Special Provisions voids the Contractor’s public safety responsibilities or relieves the Contractor from the responsibility to comply with other ordinances regulating noise level.

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract. Each internal combustion engine, used for any purpose on the job or related to the job, shall be equipped with a muffler of a type recommended by the manufacturer. No internal

combustion engine shall be operated on the project without the muffler.

To minimize the construction impacts to residents, the Contractor is encouraged to select the bore method (directional drilling) over conventional trenching to install new conduits.

The noise level requirement shall apply to the equipment on the job or related to the job, including, but not limited to, trucks, transit mixers, or transient equipment that may or may not be owned by the Contractor. All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. The use of loud sound signals shall be avoided in favor of light warnings except those required by safety laws for the protection of personnel.

Project Specific Equipment Noise Control

Table 8-1 summarizes noise levels produced by construction equipment that is commonly used on roadway construction projects. Construction equipment is expected to generate noise levels ranging from 70 to 90 dB at a distance of 50 feet, and noise produced by construction equipment would be reduced over distance at a rate of about 6 dB per doubling of distance. The noise levels generated by the boring machine would be lower than any equipment listed in the table.

Table 8-1. Construction Equipment Noise

Equipment	Maximum Noise Level (dBA at 50 feet)
Scrapers	89
Bulldozers	85
Heavy Trucks	88
Backhoe	80
Pneumatic Tools	85
Concrete Pump	82

Source: Federal Transit Administration 1995.

Further, implementing the following measures would minimize the temporary noise impacts from construction:

All equipment shall have sound-control devices that are no less effective than those provided on the original equipment. No equipment shall have an unmuffled exhaust.

As directed by the Engineer, the contractor shall implement appropriate additional noise mitigation measures as warranted. These could include, but are not specifically limited to, changing the location of stationary construction equipment, turning off idling equipment, rescheduling construction activity, notifying adjacent residents in advance of construction work, and installing acoustic barriers around stationary construction noise sources. Furthermore, construction activities shall be limited to the time period between 9:00 a.m. and 5:00 p.m.

Full compensation for conforming to the requirements of this section shall be considered as included in the prices paid for the various contract items of work involved, and no additional compensation will be allowed therefore.

14-1.05 PRE-CONSTRUCTION MIGRATORY BIRD SURVEY

The pre-construction migratory bird survey will be performed by San Joaquin Council of Government. The survey must be conducted to determine the presence of nesting migratory birds.

Pre-Construction Survey

The contractor must coordinate with SJCOG to insure that the survey takes place no more than 14 days prior to any construction activities if construction occurs during the nesting season (February 15 to September 1). If active nests are observed within 0.25 miles of the project, the contractor must coordinate with the SJCOG biologist to determine the need and applicability of any temporal restrictions, buffers, or monitoring for construction activities and/or consultation with the California Department of Fish and Game (CDFG 1994).

Contractor must request a copy of the preconstruction migratory bird survey report and should keep in in a place where it can be available upon request.

14-1.06 CULTURAL RESOURCES

If cultural materials are discovered during construction, including human remains, do not disturb the resources and immediately stop all work within a 60-foot radius of the discovery and within any nearby area suspected to overlie the discovery. Immediately notify all appropriate parties including the Caltrans District 10 Local Assistance archaeologist, the Local Assistance Engineer (DLAE), and the County Coroner if human remains are found. Do not move cultural materials or take them from the job site. Do not resume work within the discovery area until authorized. Additional protocols for human remains are given in the State Health and Safety Code Section §7050.5 and §5097.98.

Full compensation for doing all the work involved in trench excavation, water control and dewatering, bedding and backfilling, placement of temporary paving, and cultural resources shall be considered as included in the contract prices paid for the various items of work and no additional compensation will be made therefore.

SECTION 15 – EXISTING FACILITIES

15-1.01 EXISTING FACILITIES

Contractor attention is directed to requirements of Section 5-1.15,”Property and Facility Preservation” of these Special provisions, and 7-1.05, "Indemnification” and 7-106 “Insurance", of the Caltrans Specifications.

The work shall be performed in connection with various existing highway facilities (i.e., traffic signals and streetlights, storm drain pipe, catch basins, sidewalk drains, roadway pavement, roadside signs, utility boxes, trees, fences, etc.) shall conform to the provisions

in Section 15, "Existing Facilities", of the Caltrans Specifications and these Special Provisions.

All traffic control signs shall be maintained. If relocation is necessary to facilitate the construction, the Contractor shall notify the Public Works Department, at (209) 937-8381, three (3) working days prior to said relocation, and request for approval as to where sign is to be temporarily relocated. Full compensation for performing such removal and reinstallation shall be considered as included in the various items of work and no additional compensation will be allowed therefore.

Fire hydrants, water valves, curb-stop boxes, and other utility facilities shall be unobstructed and accessible during the construction period.

Should the Contractor desire to have any alterations made in any utility or other improvement for Contractor's own convenience in order to facilitate Contractor's construction operations and for Contractor's sole benefit, Contractor shall make all necessary arrangements with the owners and bear all expense in connection therewith.

Removed highway facilities that are not to be salvaged shall become the property of the Contractor and shall be disposed of according to these special provisions, Section 15 ”Existing Facilities” of Caltrans specifications, and as indicated on the plans.

Items of work under this section, "Existing Facilities", for which specific bid items are not provided, shall be considered as included in the prices paid for the various items of work of the bid schedule, and no additional compensation will be provided therefore.

Any contract adjustment that may be warranted due to differing site conditions will be made in accordance with the provisions of Section 4-1.02, "Changes and Extra Work", of these Special Provision.

Relocations or repairs necessitated because of existing facilities which are not shown on the plans, or are shown at substantially different locations than shown may be paid as extra work in accordance with Section 4-1.02, “Changes and Extra Work”, of these Special Provisions, but only if the Engineer rules that the Contractor exercised due diligence in his operation. Due diligence may be determined by the Engineer by reviewing surface and subsurface conditions that were existing prior to exposing the facility, and determining the absence of any signs sufficient to warn a diligent Contractor of the possible existence of a facility in the area.

Utility Facilities

Attention is directed to the possible existence of underground utilities not known to the City or in a location different from that which is shown on the plans or in these Special Provisions. The Contractor shall take steps to ascertain the exact location of such facilities prior to doing any work that may damage such facilities or interfere with their service.

Remove Existing Concrete
Existing concrete sidewalk, gutter, curb and gutter, driveways, wheelchair ramps, and other concrete surfacing, where shown on the plans to be removed, shall be removed and disposed of. Concrete removal includes removal of any steel embedded in the concrete. Sawcut concrete ramps, walks, curbs, and gutters to be removed at the nearest joint or score line, at the locations indicated on the plans, and as designated by the Engineer.

Remove Existing Pavement
Asphalt concrete pavement and aggregate base shall be removed by saw-cutting and excavation or cold planing to the lines, depths, and dimensions indicated on the plans and/or as directed by the Engineer.

Roadside Signs
Unless otherwise shown on the plans, the Contractor shall maintain existing roadside signs in place. The Contractor shall replace or repair all signs damaged by his operations and under this contract by using new material. Such material shall be a replacement of the original in regards to type of sign, posts, and construction. Relocation of the existing signs shall be done the same day the sign is removed from its original location.

At the Contractor's option, existing signs may be temporarily removed in order to facilitate the Contractor's construction of other improvements included under this contract. Any sign which is removed or damaged by the Contractor's shall be reinstalled at its original location using new unistrut posts in conformance with the Standard Specifications. Existing steel pipe sign posts shall be salvaged as directed by the Engineer. Each roadside sign shall be reinstalled on the same day that the sign is removed.

All new non-mast arm mounted signs shall have High Intensity Prismatic (HIP) reflective sheeting (reflectivity; ASTM type III) and covered with anti-graffiti film. The anti-graffiti film shall be transparent overlay for use on signs. The reflective sheeting and anti-graffiti film shall be from same manufacturer and guaranteed for the same number years.

Full compensation for any temporary removal and reinstallation of roadside signs and removing existing concrete and pavement shall be considered included in the various bid items, and no additional compensation will be allowed therefor.

SECTION 16 – BLANK

DIVISION III EARTHWORK AND LANDSCAPE

SECTION 17 – EARTHWORK AND LANDSCAPE

17-1.01 CLEARING AND GRUBBING

Clearing and Grubbing shall conform to the requirements of Section 16, "Clearing and Grubbing", of the Standard Specifications, Section 17-2, “Clearing and Grubbing”, of the

Caltrans Specifications, and these Special Provisions.

Payment for removal of existing highway facilities for which specific bid items are not provided, shall be considered as included in the contract prices paid for various items of work, and no additional compensation will be provided therefore.

All materials removed shall be off-hauled and disposed of by the Contractor.

Attention is directed to Section 19-1.03D, "Buried Man-Made Objects", of the Caltrans Specifications.

Existing underground structures, trash, debris, loose fill, tree roots, tree remains, organic surficial soil, and other rubbish shall be removed or otherwise disposed of so as to leave the areas that have been disturbed with a neat and finished appearance, free from debris. Depressions left from any removals shall be properly filled and compacted in accordance with these Special Provisions, and as directed by the Engineer.

The methods for removal of subsurface irrigation and utility lines will depend on the depth and location of the line in relation to planned improvement. Unless otherwise specified, remove the pipe and compact the soil in the trench according to the applicable portions of these Special Provisions.

Where loose, uncompacted fill occurs at the surface of the site, the materials shall be excavated to expose firm natural ground or previously compacted fill. The exposed surface shall then be prepared to receive fill in accordance with the applicable portions of these Special Provisions.

Nothing herein shall be construed as relieving the Contractor of his responsibility for final cleanup of the highway as provided in Section 4-1.13, "Cleanup", of the Caltrans Specifications.

Full compensation for clearing and grubbing shall be considered included in the contract lump sum price paid for Clearing and Grubbing, and no additional compensation will be allowed. All the work involved in clearing and grubbing, including street sweeping, shall include the removal and disposal of all the existing materials as shown on the plans, as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer. Where it is required the contractor shall test the materials, according to Federal and State guidelines and regulations, before disposal.

SECTION 18 – BLANK

SECTION 19 – EARTHWORK

19-1.01 ROADWAY EXCAVATION

Roadway excavation shall conform to the requirements of Section 19, "Earthwork", of the Standard Specifications, Caltrans Specifications, and these Special Provisions.

Wherever relative compaction is specified, it shall be determined by ASTM D1557.

Surplus excavated material shall become the property of the Contractor and shall be disposed of outside the highway right-of-way in accordance with the provisions in Section 19-2.03B, "Surplus Material", of the Caltrans Specifications. All excavated material shall be loaded for off-haul from the site as it is generated. Material will not be allowed to accumulate within the right-of-way. If excavation exceeds 15 feet, water sampling will be required.

Full compensation for Roadway Excavation shall be considered included in the contract prices paid for the various items of work requiring “Earthwork” and no additional compensation will be allowed.

19-1.02 TRENCH EXCAVATION AND BACKFILL

Trench excavation, pipe bedding, and backfill shall conform to the requirements of Section 71, "Sanitary Sewer and Storm Sewers", of the Standard Specifications and City of Stockton Standard Plan Nos. R-36 through R-43, and any amendment and revisions, these Special Provisions, and as specified on the plans. Controlled Density Fill (CDF) shall be mandatory for trenches 8” wide or less. Contractor shall grind 3” deep, 12” each side of trench, and repave. If excavation exceeds 15 feet in depth, water sampling will be required.

Water control shall conform to the provisions of Section 19-3.03B(5) “Water Control and Foundation Treatment” of the Caltrans Specifications and these Special Provisions. The Contractor shall construct and maintain all necessary ditches, cofferdams, channels, drains, sumps, and temporary protective works, and shall furnish, install, and maintain all necessary pumping and other equipment for controlling flows, including ground water in the pipe trenches and structure excavations, so that no foundation will contain any free water. Full compensation for water control shall be included in the contract prices paid for various items of work, and no additional compensation will be made therefore.

The Contractor shall do all excavation of whatever substance is encountered to the lines and grades shown on the plans. Where it becomes necessary to excavate beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, the void remaining after the removal of the boulders shall be backfilled with suitable material and density, as approved by the Engineer. The Contractor shall do such grading as is necessary to prevent surface water from entering the excavation. The Contractor shall remove and dispose of all water entering the excavation. Disposal of water shall be done in a manner to prevent damage or nuisance to adjacent properties.

Due to width limitations, proximity of existing utilities, structures, and access requirements, the Contractor may be required to provide a vertical, open trench, shoring system for portions of this project. Shoring of all trench excavations shall conform to the Sheeting and Shoring Section of these Special Provisions.

The amount of open trench or plated trench permitted at any one time shall not exceed fifty (50) feet or as allowed by the Engineer. Trench excavation shall be closed and all lanes shall be restored to traffic at the end of each workday. The Contractor shall furnish and install non-skid steel plates to span trench sections, which have not been backfilled. Non-skid trench plates shall have a manufactured surface with a coefficient of friction that equals or exceeds zero point thirty-five (0.35).

Approach and ending plates shall be attached to the roadway by a minimum of two (2) dowels predrilled into the corner of the plate and drilled a minimum of two (2) inches into the pavement. Interior plates are to be butted together. Fine graded asphalt concrete shall be compacted to form ramps with a maximum slope of eight and one-half percent (8.5%) with a minimum twelve- (12) inch taper to cover all exterior edges of the plates. When the plates are removed, the dowel holes in the pavement shall be backfilled with graded fines of asphalt concrete mix. A concrete slurry or equivalent slurry mix may be substituted with the approval of the Engineer.

All operations shall be carried out in an orderly fashion. Backfilling, compacting, and clean-up work shall be accomplished as the work is approved and traffic through the work shall be impeded or obstructed as little as possible.

The trench bottom shall be free of bumps or hollows and graded to provide uniform support along the length of pipe.

Excess excavated material shall become the property of the Contractor and shall be removed and disposed of away from the job site at the Contractor's expense. Full compensation for the removal and disposal of excess or unsuitable material shall be considered included in the contract unit prices paid for the various items of work and no additional compensation will be allowed therefore.

Pipe bedding and backfill shall be placed above and below the pipe to the lines and grades shown on the City of Stockton Standard Plans Nos. R-36 through R-43, as shown on the plans, and as specified in these Special Provisions.

Delete Section 19-3.03E, "Structure Backfill", of the Caltrans Specifications and substitute the following:

> "Pipe bedding, envelope, and trench backfill material shall consist of imported material, free from vegetable matter and other deleterious substances and shall form a firm, stable base when compacted. The percentage composition weight by weight shall conform to the following grading:

Sieve Size	Percentage Passing
1"	100
¾"	90-100
No. 4	35-60
No. 30	10-30

No. 200 2-9

The material shall conform to the following quality requirements:

	Requirements
Resistance (R-value)	78 min.
Sand equivalent	25 min.

In no case shall native excavated material be used as pipe bedding, envelope, and trench backfill.

Bedding material shall be placed to approximately the same elevation on both sides of pipe to prevent unequal loading and displacement of the pipe. The difference in elevation of the bedding backfill on either side of pipe shall not exceed six (6) inches at any time.

Trench backfill shall consist of the trench area from the top of the pipe bedding to the ground surface, or if within a roadway, to the bottom of the roadway subgrade.

Backfill shall be compacted by impact, vibration, or by a combination of these methods, as approved by the Engineer. However, impact type compactors shall not be used around or over PVC pipe until backfill over the top of the pipe will permit compaction of the backfill material without deflecting or damaging the pipe. Jetting will not be permitted.

All backfill shall be placed in maximum eight (8) inch uncompacted lifts.

Compaction shall be determined by ASTM D1557.

The Contractor shall place temporary surfacing promptly after backfilling and shall maintain such surfacing until permanent paving work can be installed.

Temporary paving shall consist of asphalt cutback rolled to provide a smoother surface. All edges shall be contoured to provide a smooth transition between the existing grade and the cutback surface. The Contractor shall maintain the surface free of depressions, bumps, loose pieces, and other defects at all times. During wet weather, the Contractor shall provide a solid, non-skid surface over temporary pavement to protect the surface from damage by traffic.

Temporary pavement shall be replaced with permanent pavement, as soon as is practical after the trench is backfilled and as allowed by the Engineer.

Until the permanent pavement is placed, the base rock and temporary asphalt plant mix at the surface of the trench shall be maintained at all times. Continuous inspection and maintenance of the trench area will be required.

Any excavation shall also conform to the provisions in Section 100, “Street Opening and Pavement Restoration Regulations” of the Standard Specifications.

Full compensation for doing all the work involved in trench excavation, water control and dewatering, bedding and backfilling, and placement of temporary paving shall be

considered as included in the contract prices paid for the various items of work requiring “Earthwork” and no additional compensation will be made therefore.

19-1.03 DEWATERING

Attention is directed to Section 19-3.03B, "Structure Excavation", of the Caltrans Specifications and these Special Provisions.

If an NPDES (National Pollutant Discharge Elimination System) is required for disposal of water from construction dewatering activities, it shall be the obtained by the contractor prior to any dewatering activities. Contractor shall comply with SWRCB requirements for discharging water from any dewatering operation, including obtaining all necessary permits, testing, and/or monitoring.

Dewater the excavation if ground water is encountered. Continue dewatering before and during subsequent excavation to prevent damage to the work. Foundation must be free of water when footing concrete or pipes are placed.

The contractor shall dispose of the water so as not to cause damage to the public or private property, or to cause a nuisance or menace to the public or violate the law. Dewatering shall be installed and operated so that the groundwater level outside the excavation is not reduced to the extent which would cause damage or endanger adjacent structures or property. The static water level shall be drawn down a minimum of 1 foot below the bottom to excavations to maintain the undisturbed state of natural soils and allow the placement of any fill to the specified density. The control of groundwater shall be such that softening of the bottom of excavations, or formation of “quick” conditions or “Boils”, does not occur.

Full compensation for doing all the work involved in dewatering, water control and bedding and backfilling, and placement of temporary paving shall be considered as included in the contract prices paid for the various items of work requiring “Dewatering” and no additional compensation will be made therefore.

SECTION 20 – LANDSCAPE

20-1.01 PLANTING AND IRRIGATION

The work performed in connection with planting shall conform to the provisions of Section 5-1.36, “Property and Facility Preservation,” Section 15, "Existing Facilities," and Section 20, "Landscape," of the Caltrans Specifications and these Special Provisions.

The Contractor shall protect all irrigation improvements that are to remain. All disturbed irrigation shall be replaced, in kind, to the satisfaction of the City’s Landscape Architect. Contractor shall be responsible for the removal and relocation of existing irrigation systems, including replacement of sprinkler heads, valves, lines, controllers, connections, etc. and other work, materials, or equipment required completing the work. All repairs shall be made with new materials. Pipe materials for irrigation systems shall be Schedule 40 PVC. Nipples shall be threaded. Sprinklers shall be the type, pattern and material and

shall have the operating characteristics as that which is removed or disturbed by the work. Contractor shall coordinate with City Inspector to verify prior to abandoning, reconnecting, or covering any existing irrigation found in the project area. Existing irrigation mainlines and laterals shall be protected. Reroute as necessary.

The Contractor shall protect all landscaping improvements that are to remain. All disturbed landscaping shall be replaced, in kind, to the satisfaction of the City Inspector. All existing landscape improvements shall be documented with photographs prior to demolition to ensure accurate replacement. If required to match new sidewalk grade, existing lawns shall be (1) raised by lifting existing turf and filling with tamped imported Clements loam, replacing and rolling the turf; or (2) lowered by lifting existing turf, removing sufficient soil to lower properly, replacing and rolling the turf.

Where new sidewalk or trail is to be constructed, the existing turf at the back of the walk, shall be adjusted to the new finished grade. The contractor has two options (1) remove the existing turf to adjust the grade and replace the existing turf with new turf or (2) lift the existing turf and by removing or adding sufficient soil adjust the turf to the new grade. Turf to be placed shall be a good quality bluegrass mix free of noxious weeds. All landscaping shall be maintained in good health upon completion of the project.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in restoring planting and irrigation systems, complete in place, including the maintenance period, shall be considered as included in the prices paid for the various items of work requiring “Planting and Irrigation” and no additional compensation will be allowed therefore.

SECTION 21 – EROSION CONTROL

Attention is directed to the provisions in Section 21, “Erosion Control” of the Caltrans Specifications.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in erosion control, including the maintenance period, shall be considered as included in the prices paid for the various items of work requiring “Erosion Control” and no additional compensation will be allowed therefore.

DIVISION IV SUBBASES AND BASES

SECTION 26 – AGGREGATE BASE

26-1.01 AGGREGATE BASE

Unless otherwise indicated in these Special Provisions or indicated on the plans, aggregate base shall conform to the requirements of Section 26, "Aggregate Bases", of the Caltrans Specifications for Class 2 aggregate base.

Aggregate base shall be placed in lifts no greater than six (6) inches in loose thickness

and in a manner that avoids segregation, moisture conditioned as necessary, and compacted to at least ninety-five percent (95%) relative compaction.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in construction of the various depths of aggregate base, complete in place, will be considered as included in the contract prices paid for various items of work requiring aggregate base, and other items of work, and no additional compensation will be allowed therefore.

DIVISION V SUBSURFACE AND PAVEMENTS

SECTION 39 – ASPHALT CONCRETE

39-1.01 ASPHALT CONCRETE

Attention is directed to the provisions of Section 39-2, "Hot Mix Asphalt", of the Caltrans Specifications, and Section 39 of the Standard Specifications.

If requested by the Engineer, the Contractor shall provide a ski on the paving machine.

If poor quality paving joints show deterioration or open areas that allow water through the paving within one (1) year of paving, the Contractor will be required to fog seal for the full joint length for a minimum six (6) foot wide pass. All costs for seal will be at no additional cost to the City of Stockton.

Asphalt concrete shall not be placed adjacent to the curb and gutter until the area behind the curb and gutter is fully backfilled and compacted. It shall be the Contractor's responsibility, based on weather predictions, to schedule his paving operations to avoid paving in the rain or fog. If the day's operations are canceled because of predicted rain or fog, a non-working day will be allowed regardless of actual working conditions. The Engineer will determine whether the day's operation shall be canceled due to predicted rain or fog.

Asphalt concrete shall not be placed on any surface, which contains ponded water or excessive moisture in the opinion of the City Engineer.

If paving operations are in progress and rain or fog forces a shut down, loaded trucks in transit shall return to the plant, and no compensation will be allowed therefore.

The Contractor shall furnish and use canvas tarpaulins to cover all loads of asphalt from the time that the mixture is loaded until it is discharged from the delivery vehicle, unless otherwise directed in writing by the Engineer.

The area to which paint binder has been applied shall be closed to public traffic. Care shall be taken to avoid tracking binder material onto existing pavement surfaces beyond the limits of construction.

No traffic shall be allowed on to the area to which paint binder has been applied with the exception of vehicles unloading asphalt concrete. All vehicles involved with the Contractor's operations shall turn around within the road right-of-way. Driveways and other private property shall not be used without prior written consent of the involved property owner, a dated copy of which shall be delivered to the Engineer prior to the use thereof.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing asphalt concrete, complete in place, shall be considered as included in the prices paid for the various items of work requiring “Asphalt Concrete” and no additional compensation will be allowed therefore.

39-1.02 SLURRY SEAL

Attention is directed to the provisions of Section 37-3, "Slurry Seals and Micro-Surfacings", of the Caltrans Specifications.

DIVISIONS VI STRUCTURES

SECTION 52 – REINFORCEMENT

52-1.01 REINFORCEMENT

Reinforcing steel reinforcement shall conform to the provisions in Section 52, "Reinforcement", of the Caltrans Specifications. All rebar shall be Grade 60.

Full compensation for furnishing and installing bar reinforcing steel and mesh reinforcement shall be considered as included in the contract price paid for the various contract items requiring bar reinforcing or mesh reinforcement, and no additional compensation will be allowed therefore.

DIVISION VII DRAINAGE FACILIIES

SECTION 64 – PLASTIC PIPE

64-1.01 PLASTIC PIPE

Plastic pipe shall conform to the provisions in Section 64, “Plastic Pipe," of the Caltrans Standard Specifications and these special provisions.

The trench backfill and compaction shall conform to City of Stockton Standard Plan No. R-36.

Except as otherwise designated by classification on the plans or in the specifications, joints for culvert and drainage pipes shall conform to the plans or specifications for standard joints.

Payment

The contract prices paid per lineal foot for the various storm drain pipes and sanitary sewer pipes shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, for doing all work involved in installing the storm drain pipes and sanitary sewer pipes, complete in place, as shown on the plans, as provided in the Standard Specifications and these special provisions, and as directed by the Engineer.

Full compensation for excavation, backfill (including replacing asphalt concrete over trenches in existing paved areas), will be considered as included in the contract price paid for various items of storm drain and sanitary sewer work and no separate payment will be made therefore.

64-1.02 CONNECT PIPE TO EXISTING STRUCTURE OR EXISTING PIPE

Where shown on the Plans to connect storm drain pipe, or connect sanitary sewer pipe, to an existing structure or existing pipe, a water-tight connection shall be made in accordance with the Plans, these special provisions and the Standard Specifications.

All existing pipe to pipe connections shall have a concrete collar placed around the connection as shown on the plans.

All existing structure to pipe connections shall have a six inch (6”) thick concrete collar placed around the connection extending one foot (1’) back on the pipe in the connection. Inside walls of the existing structure shall be grouted smooth with a sand-cement dry-pack grout. If the existing structure has reinforcement within the walls, the reinforcement shall be cut and bent as to incorporate it into the collar. The reinforcement shall extend nine inches (9”) back on the pipe in the connection.

Existing structures, such as existing maintenance holes, shall be replaced with a new structure if the existing structure is determined by the Contractor or the City’s representative to be damaged, or if the existing structure is damaged during constructing of new improvements, or if it is determined by the Contractor or the City’s representative that a new pipe connection cannot be made to the existing structure.

Full compensation for connecting pipe to existing drainage structures shall be considered as included in the contract prices paid for the various sizes of pipe and no additional compensation will be allowed therefor.

The Contractor shall submit to the City Engineer a detailed "Sewer Bypass Plan" for review and approval. The Contractor shall assume that all existing sanitary sewer pipes are running full. The "Sewer Bypass Plan" shall be submitted no later than five (5) working days following the Notice to Proceed date and prior to commencing any work which requires implementation of any component of the " Sewer Bypass Plan." The plan shall be approved by the Engineer prior to its implementation by the Contractor.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in providing a bypass for the existing sanitary sewer

system until construction of the new sanitary sewer system, and disposing of the components of the sewer bypass plan that are not part of the new improvements work, as shown on the plans, as specified in the Caltrans Specifications and these Special Provisions, and as directed by the Engineer, shall be included in the lump sum price paid for “Mobilization/General Conditions”, and no additional work compensation will be allowed therefor.

DIVISION VIII – MISCELLANEOUS CONSTRUCTION

SECTION 73 – CONCRETE CURBS AND SIDEWALKS

73-1.01 CONCRETE CURBS, SIDEWALKS, AND WHEELCHAIR RAMPS

Concrete curb, gutter, sidewalk, curb returns, including wheelchair ramps, grooving, driveways, and flat work, shall be in accordance with the provisions of Sections 73, "Concrete Curbs and Sidewalks", and 90, "Concrete”, of the Caltrans Specifications, these Special Provisions, and as shown on the plans.

Portland cement concrete shall conform to Section 90-2, "Minor Concrete," of the Caltrans Specifications and shall contain not less than 564 pounds of cementitious material per cubic yard for all uses. Fly ash or slag may be added, but cannot replace the required cement, nor may the total cement content of 564 pounds be reduced. Certification of the concrete shall be received from the vendor and delivered to the City Inspector at the time the concrete is poured.

The Contractor shall sawcut all existing concrete curb, gutter and sidewalks, driveways, and other concrete improvements that will be matched with new improvements at the locations indicated on the plans and where directed by the Engineer.

Expansion joints shall be constructed wherever required by the Standard Specifications, at the locations indicated on the plans, and where directed by the Engineer. Expansion joints shall be filled with 3/8"-thick premolded expansion joint filler conforming to ASTM D-1751.

Concrete shall be cured using the curing compound method for curb, sidewalks, and gutters. The curing compound shall be the clear or translucent type conforming to the specifications of AASHTO Designation: M148, Type 1, except that the loss of water in the water retention test shall not exceed 0.040 gram per square centimeter or surface. The curing compound shall contain a fugitive dye and shall be applied at the approximate rate of one (1) gallon per one hundred fifty (150) square feet of area. The curing compound shall be applied in a manner that will provide a complete coating of all exposed faces of the concrete surface. Alternate curing methods shall be submitted to the Engineer for approval before use.

Reinforcing steel, where required, shall conform to Section 52, "Reinforcement", of the Caltrans Specifications and these Special Provisions. All rebar shall be Grade 60.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for concrete sidewalks, including ramps, including all grading necessary for installation of concrete sidewalk or concrete ramps, to finished grade, disposal of all excess material, reinforcements where required, grading under concrete, providing and grading aggregate base subbase, backfill, compaction, watering, expansion joint filler, concrete and curing compound, grooving, and for doing all the work involved in furnishing and placing concrete sidewalks, or ramps, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer shall be included in the prices paid for the various contract items of work, and no additional work compensation will be allowed therefor. Where sidewalk, or driveway is adjacent to curb or curb and gutter, the six (6) inch dimension from face of curb to back of curb shall not be counted.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for concrete curb and gutter, including all aggregate subbase, reinforcement, sawcuttings, backfill, compaction, watering, expansion joint filler, and concrete curing compound, and for doing all the work involved in furnishing and placing concrete curb and gutter, complete in place, as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer shall be included in the prices paid for the various contract items of work, and no additional work compensation will be allowed therefor.

Broken pieces of concrete shall be immediately removed from the job site and disposed. No portions of broken concrete shall remain on the job site overnight. Contractor shall pay to the City of Stockton the sum of Two Hundred Fifty Dollars ($250) for every calendar day where debris has remained on the job site overnight.

SECTION 77 – LOCAL INFRASTRUCTURE

77-1.01 SIGNAL AND LIGHTING SYSTEMS

Furnishing and installing traffic signals shall conform to Sections 86, “Electrical Work,” and 87, “Electrical Systems,” of the Caltrans Specifications, Section 86, “Electrical System” of the Standard Specifications, California MUTCD, and these Special Provisions.

a. Work covered under this division shall include furnishing all labor, material, tools, equipment, and incidentals and doing all work involved which is required for the complete installation of the electrical work.
b. Work or equipment not specified or shown on the Plans which is necessary for the proper operation of the work in this area shall be provided and installed at no additional cost to the City.

77-1.02 REGULATIONS AND CODE

Regulations and Code shall conform to Section 86-1.01D (1) of the Caltrans Specifications. Nothing in these plans or specifications shall be construed to permit work not conforming to the most stringent of applicable codes.

All individuals who perform work as electricians (kind of work apply to electrical

connections 100 volt-amperes or more; Commercial and Industrial wiring, underground conduit installation, finish work and fixtures, and fire life safety), for contractors licensed as class A and C-10 electrical contractors, shall be certified according to Labor Code Sections 3099 and 3099.2. Additionally, the contractor's representative in charge on-site shall possess an IMSA certificate.

77-1.03 CERTIFICATE OF COMPLIANCE, WARRANTIES, GUARANTEES AND INSTRUCTION SHEETS

Certificate of Compliance, Warranties, guarantees and instruction sheets shall conform to Sections 86-101C (6), 86-101C (8), and 87-2.01C of the Caltrans Specifications and these Special Provisions.

All equipment furnished shall be guaranteed to the City by the manufacturers for a period of not less than one- (1) year following the date of acceptance of the project. If any part (or parts) is found to be defective in materials or workmanship within the one year period and it is determined by the Engineer or by an authorized manufacturer's representative that said part (or parts) cannot be repaired on the site, the manufacturer shall provide a replacement part (or parts) of equal kind and/or type during the repair period and shall be responsible for the removal, handling, repair or replacement, and reinstallation of the part (or parts) until such time as the traffic signal equipment is functioning as specified and as intended herein; the repair period shall in no event exceed seventy-two (72) hours, including acquisition of parts.

The one- (1) year guarantee on the repaired or replaced parts shall again commence with the date of acceptance of the project.

77-1.04 DESCRIPTION

Traffic signal work is to be performed at the locations shown on the Plans. Work or equipment not specified or shown on the Plans which is necessary for the proper operation of the work in this section shall be provided and installed at no additional cost to the City.

Any Contractor-requested change, from approved Plans and Specifications, shall be made in writing to the City. No changes shall be made in the field without written approval of requested changes by the City.

The contractor is responsible to take all necessary precautions and use best practices in the industry to perform all work require to complete the project.

77-1.05 MATERIALS

Attention is directed to Section 6 of standard specification, except as provided under "City-furnished Materials" of these Special Provisions, the Contractor shall furnish and install all other materials required to complete the work under this contract.

77-1.06 EQUIPMENT LIST AND DRAWINGS

Equipment list and drawings shall conform to the provisions in Section 86-1.01C (1) of the latest Caltrans Specifications, and these Special Provisions.

All equipment and materials that the Contractor proposes to install shall conform to these specifications and contract plans. A list of substitute equipment and/or materials along with a written descriptive summary, describing the functions of the components, which the Contractor proposes to install, shall be submitted along with his bid proposal. The list shall be complete as to the name of manufacturer, size and identifying number of each item. The list shall be supplemented by such other data as may be required. In all cases, the judgment of the Engineer shall be final as to whether substitute equipment and/or material recommended by the Contractor conform to the intent of these specifications.

THE CONTRACTOR SHALL FURNISH FINAL AS-BUILT DRAWINGS AS PART OF THIS PROJECT AT NO ADDITIONAL COST TO THE CITY.

77-1.07 FOUNDATIONS

Foundations shall conform to the provisions in Section 56-3 “Standards,Poles, Pedestals, and Posts”, Section 87-1.03E (3) “Concrete Pads, Foundations, and Pedestals” of the Caltrans Specifications and these Special Provisions.

Certification of the concrete shall be received from the vendor and delivered to the City Inspector at the time the concrete is poured. The foundation shall be cast monolithically up to the top 2 inches which shall be placed after the standards have been plumbed. Construction of Concrete foundations includes placement of reinforcement required per City standards.

Attention is directed to Section 51-1, “General,” of the latest Caltrans Specifications regarding bonding, cold joints and construction preparations for same.

Dimensions of concrete footings for City of Stockton signal standards are shown on City of Stockton Standard Plans, Drawings R93 and R95. The 1-B pole foundation shall be installed in conformance with the City of Stockton Standard Drawings number R95.

77-1.08 STANDARDS, STEEL PEDESTALS AND POSTS

Standards, steel pedestals and posts shall conform to the provisions in Section 56.3 “Standards, Poles, Pedestals, and Posts”, and Section 87-1.03J “Standards, Poles, Pedestals, and Posts” of the Caltrans Specifications and these Special Provisions.

The Contractor shall have the Engineer locate the position of mast arm poles to determine if mast arms will be in conflict with existing overhead utilities. If relocation of utilities is required, immediate notification shall be given to the appropriate utility company.

Type 1-B shall have four (4)-bolt foundation, utilizing a cast iron pipe flange with eight (8) holes, with ornamental bolt cover. On Type 1-B poles, the ornamental cover shall rest on grouted surface. The 1-B pole shall be installed in conformance with the City of Stockton

Standard Drawing number R95. The contractor shall furnish and install the ornamental cover.

All unused signal head tenons shall be capped.

Welding of a new tenon on existing mast arms shall conform to the provisions in Section 11 “Welding” of the Caltrans Standard Specifications.

The Type 15, Type 15 Duplex, and Type 15TS Lighting Standards shall be installed in conformance with the City of Stockton Standard Drawings number R88 through R92.

Grout height under poles shall be the height of the leveling nut plus a washer as a minimum and the height of the leveling nut, washer and one-half inch as a maximum. This height will be measured from the highest point of grade under the pole.

All nuts used to attach standards to foundations and all bolts and nuts used to attach mast arms to standards shall be tightened with the correct size socket or box wrenches.

77-1.09 CONDUIT

Conduit shall conform to the provisions in Section 87-1.03B, "Conduit Installation," of the Caltrans Specifications and these Special Provisions.

All Conduits shall be Poly Vinyl Chloride (PVC), Schedule 80 with rigid steel sweeps. IMC conduit shall not be accepted. With the exception for bends to and from pull boxes and foundations the conduit shall run straight and true so that cable pulling forces are minimized. There shall be no more than 180 degree in bends. An intermediate pull box can be installed to relieve the need for additional bends at the Contractor’s cost.

Insulated bonding bushings will be required on metal conduit. All nonmetallic conduits shall have a No.8 stranded (with green insulation) copper bounded/grounding wire. These bounding/grounding wires shall be connected in the pull box with cable connectors - Burndy-Servit No. KS -15 or an approved equal meeting Caltrans specifications.

Conduits into pull boxes and pole foundations shall be rigid metal and have 90-degree sweeps. Plastic pulling bells shall be installed on all conduit ends before conductors are pulled through the conduits.

After conductors have been installed, the ends of conduits terminating in pull boxes and/or controller cabinets will be sealed with an approved type of sealing compound. Refer to the City of Stockton Standard Drawing R87 for conduit/pull box details.

Refer to City of Stockton Standard Plan Drawing R37 for trench width and depth. All conduits shall be installed below the existing AC pavement regardless of the depth of the existing AC pavement.

All excavated areas in the street or sidewalk shall be completely backfilled or covered at the end of each working day and approved by the Engineer.

Where existing conduits are to be used, as directed by the Engineer, the existing conduit shall be cleaned and both old and new cables shall be pulled into the existing conduit as a unit per the Caltrans Specifications Section 87-1.03F, "Conductors and Cable Installations".

Fiber Optic Interconnect Conduits

The 2.0" rigid metal conduit between #6E pull box and the controller cabinet (for fiber optic interconnect) shall have 90-degree sweep and large radius bend. Conduit sweeps into No. 6E pull boxes on fiber optic interconnect runs shall enter, with rigid sweeps, at 45 degrees (in vertical plane). Sweeps shall be at least 24 inches below finished grade, unless approved by engineer. A pulling bell shall be installed at the end of each conduit. 2.5" PVC Schedule 80 conduit shall be installed between #6E pull boxes on fiber optic interconnect runs.

All fiber optic interconnect conduits with fiber cable shall include one 1250Ibf detectable Muletape with 22 AWG wire. A detectable Muletape shall be installed after Fiber Optic cable installation for future detection.

77-1.10 COLORED CONTROLLED DENSITY FILL (CDF)

The controlled density fills for the installations of all conduits shall be a red color to distinguish the concrete backfill from other concrete and soil. The concrete shall be pigmented by the addition of commercial quality cement pigment to the concrete mix.

The red concrete pigment shall be LM Scofield Company; Orange Chromix Colorant; or Davis Colors; or accepted equivalent. A minimum of 5 lbs. of red tint pigment shall be used per cubic yard of the CDF mix.

77-1.11 PULL BOXES

Pull boxes shall conform to the provisions in Sections 86-1.02C "Pull Boxes" and 87-1.03C "Installation of Pull Boxes" of the Caltrans Specifications, these Special Provisions, and in conformance with the City of Stockton Standard Drawings number R87.

When a pull box is subjected to vehicular traffic load, the cover shall be steel embossed with a non-skid pattern.

Pull boxes shall be placed at same elevation as adjacent standard base, service cabinet base or signal controller cabinet base if not an existing or future sidewalk area and elevation is not shown on plans. Pull boxes shall be five feet (5') from base or as shown on the plans. Pull boxes in existing or future sidewalk areas shall be placed at sidewalk elevation. The pull box elevation for pull boxes installed in median areas shall match the slope of the two adjacent curbs. The pull box elevation for pull boxes installed in planting areas adjacent to sidewalk or sidewalk area shall be at sidewalk grade. Pull boxes shall not be installed in part of wheelchair ramps, driveways or traveled way.

When pull boxes are placed in dirt and planting areas, a concrete collar shall be

constructed around the pull box. The concrete collar shall be a minimum 12-inch concrete collar by 4-inch-thick and at least 4 inches along the sides of the pull box to the bottom edge. The top of the pull box shall match slope of the adjacent top of curb. The surface elevation of the collar shall match the surface elevation of the pull box and slope away from the pull box at a rate of 1:50 (2%) slope.

The Contractor shall clean all existing pull boxes entered for installation of conduit or wire of all dirt and debris. All pull box lids damaged by Contractor operations shall be replaced at his/her expense. The wiring in these pull boxes shall be neatly bundled, recoiled and reinstalled in the box. Where existing pull boxes are removed and replaced with new larger boxes the existing conduits shall be cut back. When the conduits are cut, the existing conductors must either be removed or well protected. The ends of the cut conduits must have bushings placed on them.

Grout in bottom of pull boxes will not be required. Pull boxes shall be set on 6 inches of crushed rock for drainage. The conduits in the pull boxes shall be placed 2” above the crushed rock.

Recesses for suspension of ballasts will not be required.

All pull boxes shall be No. 5 unless otherwise noted on the plans.

All pull boxes shall have lids embossed with “TRAFFIC SIGNAL”.

All pull boxes shall include copper grounding rods per City Standard Drawing No. R87.

All pull boxes on fiber optic interconnect runs shall be # 6 unless otherwise noted on the plans. All conduit sweeps into No. 6 pull boxes on fiber optic interconnect runs shall be 45 degrees. Contractor shall leave at least 20-foot fiber cable slack in each pull box run, between exiting conduit and entering conduit. The pull boxes shall have lids embossed with “INTERCONNECT”.

A State Standard Number 6E pull box with extension (17" x 30" x variable depth (inside dimensions)) shall be installed adjacent to the traffic controller cabinet for fiber optic interconnect cable. The seam between pull box and extension shall be grouted. The optional base slab of the 6 (T) PB shall not be used. Contractor shall leave at least 50-foot fiber cable slack in pull box, between exiting conduit and entering conduit.

Street Lighting Pull Boxes

All street lighting pull boxes shall have security lids and backfilled as indicated on City of Stockton Standard Drawing No. R87. All pull boxes shall have lids embossed with “STREET LIGHTING”.

77-1.12 CONDUCTORS AND WIRING

Conductors and wiring shall conform to the provisions in Sections 86-1.02F, 86-1.02I, 87-1.03F, 87-1.03H, 87-1.03I, and 87-1.03N of the Caltrans Specifications and these Special

Provisions.

The Contractor shall install individual conductors' type THW Polyvinyl Chloride (600 volt). Signal wires, Street Light wires, and White Neutral wires shall be 14 AWG, 10AWG, 12AWG, respectively. Signal cable shall not be used. Inert lubricant shall be used in placing conductors in the conduit.

All conductors that are to be spliced together shall be twisted a minimum of 5-turns and soldered. Then, the joint shall be held by mechanical means before insulating in accordance with Method "B."

When new conductors are to be added or existing conductors are to be removed from existing conduit, all conductors shall be removed; the conduit shall be cleaned as provided in Caltrans Specifications, Section 87-1.03F, "Conductors and Cable Installations"; and both old and new conductors as shown on the plans, shall be pulled into the conduit as a unit.

All field wiring terminating in the traffic signal controller cabinet or service cabinet shall be fastened to the termination panels with one-piece copper solderless/crimpless wire lugs. Solderless/crimpless lug shall have offset shank and have a maximum wire size capacity of 6.

77-1.13 FUSED SPLICE CONNECTORS

Fused splice connectors as specified in Sections 86-1.02N "Fused Splice Connectors" and 87-1.03N "Fused Splice Connectors," of the Caltrans Specifications shall be required. Fused splice connectors shall be installed in the base of the poles, next to the inspection plate. No pigtail is allowed on the fuse holders.

77-1.14 BONDING AND GROUNDING

Bonding and grounding shall conform to the provisions in Sections 86-1.02F(2)(c)(ii), 86-1.02O, 87-1.03F(3)(c)(i), 87-1.03J, and 87-1.03O of the Caltrans Specification and these Special Provisions.

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box. Grounding Rod shall be 5/8" in diameter and 8 foot in length.

In addition, because of past conflict monitor electronic problems associated with grounding, the Contractor shall be required to install a total of four (4) conductors between the service pedestal and the controller cabinet. These conductors shall be installed as followed;

Green Conductor - No. 8 stranded conductor from Ground Bus #2 in controller cabinet to ground bus in service pedestal.

White Conductor - No. 8 stranded conductor from Ground Bus #1 terminal in the controller

cabinet to the neutral bus in the service pedestal.

Black Conductor - No. 8 stranded conductor from the power terminal in the controller cabinet (312B) to service breaker.

Bare Copper Conductor - No. 10 solid conductor from Ground Bus #2 in controller cabinet to conduit grounding bushing in pull box.

Grounding jumper shall be visible after cap has been poured on foundation.

77-1.15 BLANK

77-1.16 SIGNAL FACES AND SIGNAL HEADS

Signal faces, signal heads and auxiliary equipment as shown on the plans, and the installation thereof, shall conform to the provisions in Section 86-1.02R(4), "Signal Heads"; 86-1.02R(3), "Backplates"; 86-1.02R(2), "Signal Mounting Assemblies"; and 86-1.02R(1), “General”, of the Caltrans Specifications and these Special Provisions.

In addition to Section 86-1.02R (2), "Signal Mounting Assemblies," of the Caltrans Specifications, the mounting bolt spacing, cable guide location and dimensions and terminal compartment shall conform to Caltrans Standard plan, ES-4D. Terminal compartments with hinged doors will not be accepted.

Backplate shall be fastened with stainless steel self-tapping screws.

All backplates shall be vented, colored satin black, and one piece.

Visors on mast arm hung signals shall be "tunnel" type and colored satin black with open slot at bottom.

Visors on side-mount and 1B-pole signals shall be "full circle" type and colored satin black.

All signal face indications shall have 12-inch sections (unless specifically noted on plans).

Polycarbonate traffic signal heads will not be accepted.

Lens doors shall be a type with a single wing nut/fastening bolt assembly, colored satin black, and made of stainless steel.

The framework for vehicle heads shall be colored traffic signal green.

TV-1 mounting on Type 1-B standards shall not be accepted.

77-1.17 LIGHT EMITTING DIODE (LED) VEHICLE SIGNAL LENSES

All traffic signal heads shall be State approved LED modules. All the LED sections shall have internal fuses (Fusistors are not allowed). The external lens shall be smooth on the outside to prevent excessive dirt/dust buildup. The LED signal module lens shall be UV stabilized. The external lens shall be specifically designed with a sloped front face to reduce sun reflections (Sun Phantom). The LED module shall be supplied with an installed gasket. The red, yellow, and green ball modules shall have a visual appearance similar to that of an incandescent lamp (i.e. Smooth and non-pixelated). The optical assembly shall diffuse the light output and provide uniform illumination across the entire surface of circular lenses. Individual LED's shall not be visible to the observer of indications displayed by traffic signal modules, providing an incandescent type appearance. The LED arrow modules shall have a full, filled profile, reflecting a light distribution look and appearance similar to that of an incandescent lamp, without the individual LED's being visible. The arrows shall meet all applicable Caltrans specifications on light intensity. The unit shall be repaired or replaced by the contractor if it exhibits a failure due to workmanship or material defect within the first 60 months of delivery. The unit shall be repaired or replaced if the intensity level falls below 50% of the original values within 60 months of delivery.

77-1.18 ACCESSIBLE PEDESTRIAN SIGNAL (APS) SYSTEM

Audible/Accessible Pedestrian Buttons System (PBS) must comply with the California MUTCD, chapter 4E. No part of the audible signal must be installed inside the controller cabinet and it shall be compatible with existing City's system. PBS system shall consist of all electronic control equipment, mounting hardware, push buttons and signs. The PBS must have secure wireless connectivity via Bluetooth and WIFI for controlling and programming the volume level and messaging. Power for the PBS must be from the pedestrian signal housing terminal block. The system shall comply with the following requirements;

- NEMA, 250-Type 4X protection (Enclosure).
- TS4 (Electrical Reliability in section 8).
- IEC 61000-4-4 and IEC 61000-4-5 (Transient Suppression).
- FCC Title 47, Part 15, Class A (Electronic Noise).
- NEMA TS2 Section 2.1.
- Weigh less than 5 lb.
- The Control unit shall measure 7.3 by 3.6 by 1.3 inches.
- Have an internal weatherproof speaker and microphone that senses the ambient sound level.
- Adjustable operating force between 1lb and 3 lb.
- Minimum 2-inch diameter actuator.

A. The housing for the unit shall be 9"X12" (green) and made of 356 Aluminum heat-treated to meet Specification T-6. It shall be of a telescoping, vandal-proof design. The color shall be Olive Green. Adaptors may be required to install the APS pushbutton housing and the sign plate. An adaptor or a /Spacer may be required to install

two 9”X12” housings side by side. The PPB shall be installed right side up to avoid water penetration.

B. The PBS must detect WALK and DON’T WALK from one Control Unit (CU) data input wire. The CU shall be mounted inside the pedestrian signal indications housing powered by 120 VAC WALK/DON’T WALK pedestrian head lamp indications, an interface panel. Each PBS shall connect to a control unit located inside its associated pedestrian signal housing. The PBS shall provide information and cues via both a vibrating arrow button and audible message indicating the” WALK SIGN IS ON”, during WALK interval. All sounds grill must be located on the back of the unit. The weather-proof speaker shall be protected by a vandal resistant screen. The speaker volume shall be adjusted to accommodate the lowest ambient background noise. A sunlight visible red LED latches “ON” to confirm the button has been pushed. PBS shall include frame, sign, ADA compliant push button, and mounting hardware.

By interfacing with the Control Unit that is installed in the pedestrian signal indication housing, the PBS shall provide the following standard features:

- The system shall only have 3-wires to the PBS (power, data, ground)
- The system shall have button to button wireless synchronization capabilities via a phase partner PBS.
- The user shall be able to configure and activate the system by setting at least four different times of day on a daily, weekly, or holiday basis.
- The user shall be able to retrieve the event log by using vendor’s client application.
- The user shall be able to record and upload cumulative pedestrian count and call data.
- The user shall be able to upload voice messages, setting all volumes and features through the Bluetooth interface and using the PBS firmware.
- Confirmation of button push via latching LED, sound, and vibrotactile bounce.
- Direction of travel (with extended button push).
- Standard locating tone during Don’t Walk (and clearance if desired).
- Standard voice messaging during Walk.
- Vibrating button during Walk.
- Standard locating tone or verbal countdown during clearance.
- All sounds automatically adjust to ambient over 60dB range.
- All sounds shall be synchronized.
- Extended button push shall turn on, boost volumes, and/or mute all sounds except those on activated crosswalk.

- The System shall have at the minimum seven pedestrian clearance sound options, including audible countdown.
- The system shall provide two language options.
- The system shall have at least 10 selectable WALK sound choices, including cuckoo, a chirp, a MUTCD rapid tick or custom message.

C. Mounting Height and Location. PPB's Controls shall be located no more than 5 feet offset from the extended crosswalk line, at a height of 42 inches above the finished surface, and at least 10 feet apart. The PPB's shall also be located adjacent to a paved flat area and there shall be 10 to 24-inch sides reach from the flat area to the PPB. A Push Button Frame Extender (PBFE) may be required.

D. Pedestrian Pushbutton front cover plates shall be international symbol (R10-3e MUTCD sign) and installed with security screws. The security screws shall be stainless steel, button head socket cap screws #8 diameter, 3/8 inch in length and 32 threads per inch. The socket shall be 3/32 inch Allen.

The Contractor shall verify with the City Traffic Engineering the types of verbal message to be programmed in each pedestrian push button.

77-1.19 RECTANGULAR RAPID FLASHING BEACONS

Refer to Sheet C6.1, Detail 3, of the plans.

Furnishing and installing a rectangular rapid flashing beacon (RRFB) system consisting of multiple assemblies shall conform to the latest applicable provisions of the Caltrans, California MUTCD, and City of Stockton Standard Specifications and Plans, and the project plans and these Special Provisions.

Each RRFB assembly may consist of, but is not limited to, light indications, wireless communication equipment, solar power equipment, and electrical components (wiring, solid-state circuit boards, etc.). An assembly may include the following items:

Light Indications

- Each indication shall be a minimum size of approximately 7" wide x 3" high.
- Two indications shall be installed on an assembly facing each direction of approaching vehicular traffic. The two indications shall be aligned horizontally, with the longer dimension of the indication horizontal, and a minimum space between the two indications of approximately 7" measured from inside edge of one indication to inside edge of second indication.
- A single indication shall be installed on an assembly facing in the direction of approaching pedestrian traffic to serve as a confirmation for the pedestrian that the system has been activated.
- The outside edges of the two indications, including any housing, shall not protrude

beyond the outside edges of the integral signage of the assembly.
• The light intensity of the indications shall meet the minimum specifications of the Society of Automotive Engineers (SAE) standard J595 (Directional Flashing Optical Warning Devices for Authorized Emergency, Maintenance, and Service Vehicles) dated March 2014. Contractor shall furnish a Certificate of Compliance for this standard.
• Each indication shall be located between the bottom of the crossing warning sign and the top of the supplemental downward diagonal arrow plaque.
• All exposed hardware shall be anti-vandal.

Sign
• All signs shall be supplied and installed as part of this bid item.

Control Circuit
• The control circuit shall have the capability of independently flashing up to two independent outputs. The LED light outputs and flash pattern shall be completely programmable.
• The flashing output shall be the wig-wag plus simultaneous (WW+S) pattern in accordance with FHWA official ruling number 4(09)-41 (I).
• Flash rates with the frequencies of 5 to 30 flashes/second shall not be used to avoid inducing seizures.
• When activated, the RRFB shall operate for a predetermined interval based on MUTCD procedures for timing of pedestrian clearance times for pedestrian signals. Coordinate with the Engineer for this interval.
• The control circuit shall be installed in a NEMA 3R (minimum) rated enclosure.
• All circuit connectors shall be rated dust proof and protected from temporary immersion in water.

Battery
• Battery unit shall be rated for operation in northern climates and capable of between 200-500 daily actuations.
• All batteries shall be sealed in a plastic film to provide moisture corrosion resistance.
• All batteries shall operate between the temperatures of -20°C to +60°C.
• All battery connectors shall be dust proof and protected from temporary immersion in water.

Wireless Radio
• Radio shall integrate with communication of RRFB system control circuit to activate light indications from pushbutton input.
• The Radio shall synchronize all of the remote light indications so they will turn on within 120msec of each other and remain synchronized through-out the duration of the flashing cycle.
• Radio systems shall operate from 3.6vdc to 15vdc.

Solar Panel
• The solar panel shall be sized according to the weather and field conditions to maximize performance.
• The solar panel shall be mounted to an aluminum plate and bracket at an angle of 45° - 60°.

• All fasteners used shall be anti-vandal.
• All solar panel connectors shall be dust proof and protected from temporary immersion in water.

Pushbutton
• The pushbutton shall be furnished and installed as indicated on the Plans. Refer to Sheet C6.1, Detail 3.

Pedestal Shaft
• The pedestal shaft shall be furnished and installed as indicated on the Plans. Refer to Sheet C6.1, Detail 3.

Pedestal Base
• The pedestal base shall be furnished and installed as indicated on the Plans. Refer to Sheet C6.1, Detail 3.

Concrete Base
• The concrete base and anchor bolts shall be furnished and installed as indicated on the Plans. Refer to Sheet C6.1, Detail 3.

Hardware
• Furnish all hardware, connections, etc. to make the RRFB system fully operational.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in furnishing and installing a solar powered rectangular rapid flashing beacon (RRFB) system consisting of multiple assemblies shall be considered as included in the contract prices paid for Crosswalk Sign, RRFB, Push Button & Assembly and no additional compensation will allowed therefore.

77-1.20 DETECTION

Loop Detection
Detectors shall conform to the provisions in Sections 86-1.02F(2)(c)(iii), 86-1.02F(3)(d)(iii), 86-1.02W, 86-1.02U, 87-1.03U and 87-1.03V of the Caltrans Specifications and these Special Provisions.

Sensor units shall be rack mounted.

Loop detector lead-in cable, from the pull box for the detector handhole adjacent to the loop to the field terminals in the controller cabinet, shall conform to the following:

Lead-in cable shall be City approved detector loop lead-in cable and consist of 4 number 18 stranded copper conductors (Micro Loop Cable) with each conductor insulated with polyethylene. The conductors shall be twisted together with a minimum of 5 turns per foot and the twisted pair shall be protected with a shield of aluminum polyester jacket with a thickness of 27 mils, minimum, at any point, and shall be UL listed, Style 2106. The diameter of the cable shall be 0.25-inch maximum. The diagonal pairs shall conform the following color-coding: White/Black and Red/Green.

Inductive Loop Detector Installation Details: Section 87-1.03V, “Detectors”, of the Caltrans Specifications, shall be deleted and the following shall be substituted:

Loop lead-ins shall be individually identified as shown on the plans. Identification shall be by means of bands placed on the lead-in near the first splice.

The loops shall be installed in conformance with City of Stockton Standard Drawing numbers R96 through R98. All loops shall be wrapped in the slots in the same clockwise direction. The loop wire ends MUST be marked START and FINISH with loop lane/phase identification number. Splices between the loop conductors and the lead-in cable shall be made in the pull box adjacent to the loops. The loops shall be joined in the pull box in series but alternating the wire ends of adjacent loops to alternate polarity to achieve optimum sensitivity at the sensor unit. Series loops shall be marked and connected as follows. First loop - "start" end to lead-in cable. "Finish" end to "finish" wire of second loop. "Start" wire of second loop to "start" end of third loop. The alternating sequence will continue for any series of loops.

For dual left or where there are multiple lanes with presence loops adjacent to each other and the lanes are 11 feet wide and narrower, inductive loops shall be 5 feet square/diameter. For lanes wider than 11 feet, inductive loops shall be 6 feet square/diameter. All advance loops and sampler loops shall be 6 feet square/diameter, regardless of lane width.

Detector Handholes shall be Type A or B Traffic Rated, as shown on City of Stockton Standard Drawing R98. Metal triangular lids with metal rings shall be used. The point of the triangle shall face the direction of travel. Conduit from detector handhole to nearest pull box shall be 2" diameter or as shown on plans. If the handhole is located at the lip of the gutter, four (4” deep) concrete is required around the handhole.

Slots cut in the pavement shall be immediately cleaned by washing with water to remove all sawing residue and blown out and dried before installation of conductors.

After conductors are installed in the slots, the slots shall be filled with sealant. The sealant shall be at least one inch thick above the top conductor in the saw cut. Each loop shall be checked and filled with sealant after a minimum elapsed time of one hour. This is due to trapped air pockets and/or settling of the sealant.

All inductive loops and lead-in shown in areas paved with "Open Graded Asphalt Concrete" shall be installed a minimum of 2 inch deeper, as measured from the pavement surface, than shown on the drawings.

Loop detector sealant will be furnished by the Contractor. Sealant shall be Asphaltic Emulsion Induction Loop Sealant, State Spec. No. 8040-41A-15.

Loop detector sealant must be used at air temperatures above 40 degrees Fahrenheit. Sealant shall be placed 1/8 inch below pavement surface. At no time shall the sealant be

installed if the ground is wet.

One-inch (1") minimum diameter holes shall be core drilled at the loop corner before slots are saw cut. Diagonal corner cuts shall not be permitted. Homerun cut must be at a 45-degree angle from any corner of the loop. If round loops are used, homerun shall be cut perpendicular to the loop slot. This prohibits the loop wire from being bent more than 90 degrees.

Conductors of all loops to be operated by each sensor unit shall be run continuous to the nearest detector handhole up to the nearest pull box. All loop wires shall have five (5) feet of slack in the pull box.

Detector loop conductors shall be Type 2 loop conductors.

Splices between loops and lead-in cable shall not be made until the operation of the loops under actual traffic conditions is approved by the Engineer. If there is more than a 24 hour lag time between the time the loops are installed and connected to the lead-in cable, both the loop conductors and the lead-in cable ends shall be water proofed until the actual splice is made (to prevent capillary action of water into the conductor insulation). The conductors and lead-in cable ends shall be waterproofed as follows:

Completely cover the conductor and lead-in cable ends with an electrical insulating coating and allowed to dry. Apply one layer of high voltage tape half-lapped then apply one layer of PVC tape half-lapped. Apply electrical insulating coating over PVC tape and at least 4 inches of conductor insulation above the cut ends.

All loops shall be marked with phase tape in the pull box as well as in the controller cabinet.

Lead-in cable for traffic signal and traffic counting installations shall be identified and banded by lane in the detector handhole and near the termination of the conduit in the controller or traffic count station cabinet. Bands shall conform to the provisions in Section 87-1.03F, "Conductors and Cable Installations," of the Caltrans Specifications.

The Contractor shall test the detectors with a motor-driven cycle, as defined in the California Vehicle Code, which is licensed for street use by the Department of Motor Vehicles of the State of California. The anodyne weight of the vehicle shall not exceed 220 pounds and engine displacement shall not exceed 100 cubic centimeters. Special features, components or vehicles designed to activate the detector will not be permitted. The Contractor shall provide an operator who shall drive the motor-driven cycle through the response or detection area of the detector at not less than 3 miles per hour or more than 7 miles per hour. The detector shall provide an indication in response to this test.

Multi Sensor Video Detection System (MSVDS)

The Multi Sensor Video Detection System (MSVDS) shall consist of two different technologies, video imaging and radar. The system shall detect and track vehicles at distances over 500 feet. In a low-visibility condition, the system shall be capable to switch

automatically to either radar detection mode or constant call mode. The MSVDS shall fuse vehicle information from the two sensors to provide highly accurate and precise detection for simultaneous stop bar presence detection, advanced detection, and special or advanced applications. Provide sufficient number of cameras to process vehicle presence, advanced, and all system detection zones as shown on the project plans. All equipment, cables, and hardware must be from the same manufacturer. The MSVDS shall match City's existing system and be compatible with City's existing cloud data collection software. No rewiring to the City of Stockton standard P controller cabinet is allowed. The MSVDS shall meet the "Buy America" requirements.

System Hardware

The MSVDS shall consist of up to two hybrid video camera/radar sensors for main streets, two standard video cameras for side streets, a shelf mounted form factor Central Control Unit (CCU) with up to four detection processors capable of processing from up to four sensors, video surge suppressors, a 7-inch monitor, a keyboard, system software, and a pointing device. At locations where there is a TS1 traffic signal cabinet a SDLC Hub is required.

With use of software the system shall discriminately detects the presence of individual vehicles and bicycles in a single or multiple lane using only the video image and sends vehicle and bicycles calls out to the controller via separate outputs. The system software shall also utilize artificial intelligence and deep learning to automatically count and detect pedestrian movement in the crosswalk, count turning movement counts and learn the background to count and distinguish left, through and right turn movements. The system software shall be able to work simultaneously with City's existing cloud based ATSPM and the City's cloud-based DATA fusion live System. A minimum of 32 video detection zones and 32 radar detection zones per sensor shall be available.

In addition to creating vehicle and bicycle zones, the system shall provide a tracking mechanism that counts pedestrian volume moving within the crossing area, and determine the average, maximum, and minimum speed of pedestrians moving within the crossing zone. The system shall also provide discrete outputs when pedestrians are in the crosswalk during normal crossing phases (one for each direction of travel) and when a red phase input has been detected. The system shall also provide a visual indication on the video image that a pedestrian is in the crosswalk.

MSVDS Hardware

Central Control Unit (CCU)

The CCU shall be a single-rack detector card width and provide provision for up to four sensors/cameras. The Detection Processor shall be embedded in the CCU to provide one single cabinet interface. Each sensor/camera shall be connected to the CCU via Ethernet cable. The interface connectors shall be RJ-45 type. The CCU shall have four detection status LEDs on the front panel. The CCU shall enable the loading of modified or enhanced software through either the Ethernet or front-panel USB port (using a USB thumb drive). The shelf-mount format CCU shall be powered from a 48V DC power supply. CCU power consumption shall not exceed 150 Watts. The CCU shall have logic

inputs for future use.

The CCU shall incorporate surge suppression for each sensor input. The CCU shall incorporate power surge suppression both on the input power and on the power supplied to the sensors. The CCU shall incorporate power management for the various parts of the MSVDS such that if fault conditions are detected the power supply will safely shut down the power to that peripheral.

The CCU shall provide 2 USB 'A' ports on the front panel. These ports can be utilized for various functions. The USB ports shall be used as part of system setup and configuration. The CCU shall provide an output to a monitor. The port shall be HDMI. The native resolution of the monitor port shall be 1024 x 768.

An Ethernet communications port shall be provided on the front panel. The Ethernet port shall be compliant with IEEE 802.3 and shall use a RJ-45 type connector mounted on the front panel of the CCU. The Ethernet communications interface shall allow the user to remotely configure the system and/or to extract calculated vehicle/roadway information. The interface protocol shall be documented, or interface software shall be provided. Each MSVDS shall have the capability to be IP addressable. The CCU shall support data rates of up to100Mbps.

The CCU shall provide an SDLC connection to the traffic controller. The connector shall be a 'D-15' type, in compliance with NEMA TS-2 specifications. The CCU shall provide a Wi-Fi connection. The connection shall be over a standard 2.4GHz connection. The Wi-Fi connection shall be enabled and disabled by a switch on the CCU. The CCU shall provide an indicator when the Wi-Fi connection is active. The CCU shall provide a connection for a removable antenna. The antenna connection shall be a SMA Male type.

MSVDS Sensor/Camera

The MSVDS sensor shall have two components; a camera sensor and a radar sensor. The MSVDS sensor shall utilize a single shielded CAT5E or CAT6 cable for power, communications and video. Cable termination at the camera shall not require crimping or special tools. An optional RJ45 direct connector shall be made available.

The MSDS shall detect vehicles and bicycles and pedestrians in real time as they travel across each camera detection zone. Vehicles, bikes, and pedestrians' detection outputs shall be on separate channels within the same field of view. The MSVDS shall default to a safe condition, such as a constant call on each active detection channel, in the event of unacceptable interference or loss of the video and/or radar signal.

A user-selected alarm output shall be available to be used during the low-visibility condition that can modify the controller operation if connected to the appropriate controller input modifiers (Max1 or Max2). The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists. An On-Screen Icon shall be displayed while the system is in this mode. Detection shall be at least 98% accurate in good weather conditions, with slight degradation possible under adverse weather

conditions (e.g. rain, snow, or fog) which reduce visibility. Detection accuracy is dependent upon site geometry, sensor placement, camera image quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to sensor location or quality. Detection zone setup shall not require site specific information such as latitude and longitude to be entered into the system.
In addition to the count type zone, the MSVDS shall be able to calculate average speed and lane occupancy for all the video detection zones independently. These values shall be stored in non-volatile memory for later retrieval.

The MSDS shall have the capability to change the characteristics of a detection zone based on external inputs such as signal phase. Each detection zone shall be able to switch from one zone type (i.e. presence, extension, pulse, etc.) to another zone type based on the signal state.

The On-Screen Display shall include an Automatic Traffic Volume graph. This graph will display estimated Vehicles Per Hour (VPH) per movement for each camera view. The graph will display a rolling 24-hour period of VPH. The On-Screen Display shall include an Occupancy Graph. This graph will display estimated approach occupancy for each camera view. The graph will display a rolling 24-hour period of Occupancy. The On-Screen Display shall include a Speed Graph. This graph will display average speed of vehicles through each sensor view for the last Bin Interval. The graph will display a rolling 24-hour period of Speed.

Installation
The CCU shall be appropriately grounded to the cabinet ground rod using 14 AWG ($2.5mm^2$) minimum. The cable to be used between the MSVDS sensor/Camera and the CCU in the traffic cabinet shall be Cat-5e, shielded, direct burial. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. Shielded RJ-45 connectors shall be used where applicable. The MSVDS system shall be installed by factory-certified installers as recommended by the supplier and documented in installation materials provided by the supplier. Proof of factory certification shall be provided. Each cable shall be tagged in cabinet as well as in the pull box near each associated traffic signal pole. The following configuration shall be used for Cat5e/Cat6 cable installation.

Cable Color	Phases	CCU Port
Red	2 & 5	1
Green	4 & 7	2
Blue	6 & 1	3
Yellow	8 & 3	4

Warranty
Furnish minimum of 3-year replacement warranty from the manufacturer against defects in material and workmanship or failures. The effective date of the warranty is the date of acceptance of the project. Submit all warranty documentation before installation. Replacement parts must be furnished within 10 days of receipt of a fail unit. The City does not pay for replacement. During the warranty period, updates to DP software shall be available from the supplier without charge.

Maintenance and Support
The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.

The supplier shall maintain an ongoing program of technical support for the video detection system. This technical support shall be available via telephone, or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale for on-site technical support services. Installation or training support shall be provided by a factory-authorized representative and shall be a minimum IMSA-Level II Traffic Signal Technician certified.

77-1.21 BLANK

77-1.22 TRAFFIC SIGNAL CONTROLLER M CABINET SPECIFICATIONS

City of Stockton traffic signal cabinet specification shall supersede any applicable parts of the State of California, Department of Transportation Standard Specifications and Standard Plans. This specification shall apply to all controller cabinet types with noted exceptions.

All specifications not covered by these specifications shall conform to the State of California, Department of Transportation Standard Specifications and Standard Plans. Traffic signal cabinets shall also comply with NEMA specifications where applicable.

The State Specifications referred to in these specifications shall mean the latest State of California, Department of Transportation, Standard Specifications, unless otherwise is indicated.

The controller cabinet shall be furnished and installed by the contractor. The controller cabinet shall be equipped with all auxiliary equipment and plug-ins which are capable of operating 8 vehicle phases and 4 pedestrian phases (NEMA TS-2, Type 2). Solid-state switching devices shall conform to the provisions in Section Solid-State Switching Devices," of these Special Provisions and the following:

The cabinet manufacturer shall have pre-approval by the City of Stockton on any cabinet that they propose to provide to the City. Said pre-approval shall have been obtained no less than 30 days prior to the closing date of the bid. The cabinet shall be completely wired and tested to the 2003 NEMA Traffic Controller Assemblies specification with NTCIP Requirements Version 02.06 (as amended here in). In addition, and at a minimum, the following requirements shall be met:

City of Stockton traffic signal cabinet specification shall supersede any applicable parts of the State of California, Department of Transportation Standard Specifications and Standard plans.

The cabinet shall be wired for up to a minimum of (16) channels of detection and (4) channels of Opticom™ preemption.

The use of PC boards shall not be allowed except in detector racks & SDLC interface panels.

The use of plug and play modules shall not be allowed, with the exception of detector rack(s).

All cabinet 120VAC wires shall be 18AWG or greater, including controller “A” and MMU “A & B” cables.

The complete cabinet assembly with electronics shall undergo complete input/output function testing by the manufacturer before being released to the City of Stockton.

Cabinet Enclosure
At a minimum the cabinets shall meet the following criteria:

1. It shall have nominal dimensions of 56” high x 30” width x 17” depth and meet the footprint dimensions as specified in Section 7.3, Table 7-1 of NEMA TS2 standards for a Type M cabinet. The cabinet base shall have continuously welded interior mounting reinforcement plates with the same anchor bolt hole pattern as the footprint dimensions. There shall be 4-mounting holes on center front, back and side walls.
2. Shall be fabricated from 5052-H32 0.125-inch thick aluminum.
3. The cabinet shall be double-flanged where it meets the cabinet door.
4. The top of the cabinet shall be sloped 1” towards the rear to facilitate water runoff. And shall bend at a 90° angle at the front of the cabinet. Lesser slope angles are not allowed.
5. The inside of the cabinet shall utilize C channel rails. (2) Welded on the back wall on 20” center and (2) welded on each side wall on 08” center. The C channel rails on the back and side walls shall be 41” in length. The C”C” channel on the back wall shall start 3” from the bottom of the cabinet interior. The C channel rails on the side walls shall start 2” from the bottom of the cabinet interior. Adjustable rails are not allowed.
6. The Cabinet shall be supplied with an anodized finish as per the most current California Standard Specification, Section 86-3.04A, “Cabinet Construction” (prior to the bid date of this special provision). Submit alternative design details for review and approval before manufacturing a cabinet.
7. All external fasteners shall be stainless steel. Pop rivets shall not be allowed on any external surface.
8. The door handle shall be ¾” round stock stainless steel bar.

9. The main door shall contain a police door with a conventional police lock. A key shall be provided for both the cabinet lock and the police door lock. The police door shall be recessed into the main door so that the police door is flush with the main door. A closed-cell, neoprene gasket seal shall be bonded to the enclosure doors. A stiffener plate shall be welded across the width of the inside of the main door to prevent flexing. A main door bar stop shall be a two-position, three-point stop that accommodates open-angles at 90, 125, and 150 degrees. A louvered air entrance located at the bottom of the main door shall satisfy NEMA rod entry test requirements for 3R ventilated enclosures. Bearing rollers shall be applied to ends of door latches to discourage metal-on-metal surfaces from rubbing. The lock assembly shall be positioned so handle does not cause interference with key when opening the door.
10. The cabinet shall be equipped with a universal lock bracket capable of accepting a Best™ style lock and a Corbin #2 tumbler series lock. The cabinet shall come equipped with a Corbin #2 lock.
11. The cabinet shall be supplied with three door switches which control the door open status, the cabinet interior lighting circuits and the MMU override circuit.
12. All exterior seams shall be manufactured with a neatly formed continuously weld construction. The weld for the police box door shall be done on the inside of the cabinet door. All welds shall be free from burrs, cracks, blowholes or other irregularities.
13. The fan baffle panel seams shall be sealed with RTV sealant or equivalent material on the interior of the cabinet.
14. The cabinet shall be UL listed.
15. The cabinet shall come with lifting ears affixed to the upper exterior of the cabinet. These ears shall utilize only one bolt for easy reorientation.
16. The cabinet shall come with one (1) dual-ply Dustlock™ Media polyester, disposable air filter; and the filter performance shall conform to listed UL 900 Class 2 and conform to MERV-8 & ASHRAE Standard 52.2-1999. The filter element shall be secured to louvered entrance on the main door with Velcro type mounting on all four edges. The Velcro adhesive shall be rated for high temperatures.
17. The door shall be mounted with a single continuous stainless steel piano hinge that runs the length of the door. The hinge shall be attached via stainless steel tamper resistant bolts.
18. The wired cabinet facility shall use the latest technology applicable and shall be 100% compliant with Section 1605 of the American Recovery and Reinvestment Act of 2009, requiring the use of American iron, steel and manufactured goods. The contract shall provide a “Buy America” certificate.
19. Fire Pre-empt: When a fire pre-empt is specified, either by special provisions or noted on plan with requirement of hardwired interconnect to firehouse, a pre-empt isolation relay panel shall be installed. This panel shall be easily installed without

extensive modification to cabinet. If the cabinet is replaced, the modular pre-empt panel shall be easily transferred to a standard City of Stockton cabinet.

20. Vehicle Pre-empt: The vehicle pre-empt shall comply with the Section 10-3.30 “Priority Control System” of this special provisions. The Optical detection phase selector shall include the ability to directly sense the green traffic controller signal indications through the use of dedicated sensing circuits and wires connected directly the field wire termination points in the traffic controller cabinet. The phase selector shall be a plug-in, four (4)-channel, multiple-priority device intended to be installed directly into a card rack located within the controller cabinet. The phase selector shall be able to detect encoded infrared as well as other signals and provide coordinated inputs to the controller. The harness wire, which connects to the phase selector, shall be installed in the cabinet prior to shipping the cabinet to the City’s Corporation Yard for testing. Two directions with the same phasing (like; 2-6 and 4-8) shall have separate wiring from cabinet to the proper signal poles. The cabinet shall be wired such that the two phases do not turn green, at the same time, during vehicle pre-emption in only one direction. The following configuration shall be used for detection.

Channel	Phases	Sepac/M60	D4/M60
A	2 & 5	3	1
B	4 & 7	4	2
C	6 & 1	5	3
D	8 & 3	6	4

A 6-foot Cat5e (Red Color) cable and a SFP-1 Copper 10/100/1000 Mbps RJ45 Small Form-Factor Pluggable module shall be furnished to enable the phase selector to communicate through the Ethernet switch with opticom central software.

21. Railroad Pre-empt: For railroad pre-empt, please refer to plans. The City does not have a standard configuration for railroad pre-empt. Cabinet design engineer shall submit to the City a written schematic of the proposed railroad pre-empt configuration. This schematic design shall be approved by the City prior to the construction of the cabinet. If illuminated directional signs required to be installed to restrict turns during railroad pre-emption, sign relay panel shall also be installed as well as pre-empt isolation relay panel in the cabinet.

Labels

A permanent printed thermo vinyl, engraved or silk screened label shall be provided for all terminals and sockets. Labels shall be legible and shall not be obstructed by cabinet wiring, panels or cables. All labels shall conform to the designations on the cabinet wiring prints. Labels for all shelf-mounted electronics and equipment shall be on the face of the shelf directly below their placement in the cabinet.

Shelves

Shall come with two (2) double beveled shelves 10” deep that are reinforced welded with V channel, fabricated from 5052-H32 0.125-inch thick aluminum with double flanged

edges rolled front to back. Slotted hole shall be inserted every 7” for the purpose of tying off wire bundles.

Cabinet Layout

The shelves shall be populated as follows. The power supply and (1) detector racks shall be placed on the top shelf. The controller and monitor shall be placed on the bottom shelf.
The roll out drawer and LED light shall be mounted under the bottom shelf on center.
The display panel shall be mounted on the door.
Load bay shall be mounted on the back wall with 4” of clearance to the bottom of the cabinet.
The detector panel for all field inputs shall be mounted on the lower left wall.
The “D” panel shall be mounted on the left wall just above the detector panel.
The SDLC and power supply interface panels shall be mounted on the left wall above the top shelf.
The 768 panel shall be mounted on the detector panel.
The power panel shall be mounted on the lower right wall.
The 120VAC video power panel shall be mounted above the power panel.
The 120VAC six position power strip shall be mounted above the video panel.
One 12” x 10” blank panels shall be located on the upper right wall, between the two shelves.

Ventilating Fans

The cabinet shall be provided with one (1) finger safe fan mounted on the right side of the cabinet plenum, and shall be thermostatically controlled (adjustable between 4-176° Fahrenheit). The safe touch thermostat and power terminal block(s) shall be din rail mounted on right side of cabinet plenum.

Computer Shelf

A slide-out computer shelf 16” length by 12” width by 2” depth shall be installed below the bottom shelf underneath the controller. The shelf shall be mounted just left of center so that controller cables will not interfere with the operation of the shelf when equipment is installed. The shelf shall have a hinged cover that opens from the front and shall be powder-coated black. It shall be a General Devices Part # VC4080-99-1168. The drawer when fully extended shall hold up to 50lbs.

Main Panel Configuration (Load-Bay)

The design of the panel shall conform to NEMA TS2 Section 5, Terminals and Facilities, unless modified herein. This panel shall be the termination point for the controller unit (CU) MSA, MSB, MSC, (MMU) MSA, MSB cables and field terminal facilities. The terminal and facilities layout shall be arranged in a manner that allows all equipment in the cabinet and all screw terminals to be readily accessible by maintenance personnel.

The load-bay shall be fully wired and meet the following requirements:

- The load-bay shall have the following dimensions; constructed from aluminum with a nominal thickness of 0.125 inches, a maximum height of 25 ¼ inches and a maximum width of 23 ½ inches including attached wiring bundles.
- The entire assembly shall roll down and provide access to all of the back of panel wiring. All solder terminals shall be accessible when the load-bay is rolled down.

The assembly shall be able to roll down without requiring other components, cables or switches to be removed.

- The load-bay shall be designed so that all other cabinet screw terminals are accessible without removing cabinet electronics.
- All the controller (CU) and malfunction management (MMU) cables shall be routed through the back of the load-bay so that they will not be subject to damage during load-bay roll down.
- The top of the load-bay panel shall attach directly to Unistrut™ spring nuts without the use of standoffs and spacers.
- The load-bay shall be balanced such that it will not roll down when the Unistrut™ spring nuts are removed, even when fully loaded with load switches, flasher and flash transfer relays.
- The load-bay facility shall be wired for 12 channels. Load switch(s) 1-8 shall be vehicle phases 1-8; load switch(s) 9-12 shall be pedestrian phases 2, 4. 6 & 8. All load switches shall be routed through a flash transfer relay.
- (12) Load sockets spaced on 2” center per NEMA TS2 section 5.3.1.2, Figure 5-2.
- (6) Flash transfer relay sockets.
- (1) Flasher socket.
- All load switches and flasher shall be supported by a bracket extending at least ½ the length of the load switch.
- Wiring for controller A, B & C connectors. All CU wiring shall be soldered to backside of a load bay screw terminal. The screw terminals provide access to all functions of CU cables. With the exception of the red, yellow & green of channels 13, 14, 15 & 16.
- Wiring for one Type-16 MMU. All MMU wiring shall be soldered to backside of a screw terminal. The screw terminals provide access to all functions of the MMU. With the exception of the red, yellow & green of channels 13, 14, 15 & 16.
- All 24 VDC relays shall have the same base socket, but it shall be different from the 115VAC relays.
- All 115VAC relays shall have the same base socket, but it shall be different from the 24VDC relays. (not applicable to flash transfer relays)
- Shall have a relay that drops +24VDC to load switches when the cabinet is in flash. Relay shall have a test switch for troubleshooting.
- There shall be a wire between the pedestrian yellow field terminals and another terminal on the load bay. The MMU channel 9-12 yellows shall terminate next to said pedestrian yellows terminal.
- The load-bay shall be silkscreened on both sides. Silkscreen shall be numbers and functions on the front side, and numbers only on the back side.
- Field wiring terminations shall be per channel across the bottom of the load-bay. Each channel shall have 3 terminations corresponding to the appropriate vehicle phase Red, Yellow and Green. Default wiring shall be left to right vehicle phases 1-8, pedestrian phases 2, 4, 6 & 8, following the order of the load switches. Field terminals shall be #10 screw terminal and be rated for 600V.
- All load bay field terminals shall have a copper wire lug, Blackburn part # L35.
- All cable wires shall be terminated. No tie-off of unused terminals will be allowed.
- Shall be 100% manufactured in the United States of America

All wiring shall conform to NEMA TS2 Section 5.2.5 and table 5-1. Conductors shall conform to military specification MIL-W-16878D, Electrical insulated high heat wire, type B. Conductors #14 or larger shall be permitted to be UL type THHN. Main panel wiring shall conform to the following colors and minimum wire sizes:

Vehicle green load switch output	14 gauge brown
Vehicle yellow load switch output	14 gauge yellow
Vehicle red load switch output	14 gauge red
Pedestrian Don't Walk switch	14 gauge orange
Pedestrian Walk switch	14 gauge blue
Pedestrian Clearance load switch	14 gauge yellow
Vehicle green load switch input	22 gauge brown
Vehicle yellow load switch input	22 gauge yellow
Vehicle red load switch input	22 gauge red
Pedestrian Don't Walk input	22 gauge orange
Pedestrian Walk input	22 gauge blue
Pedestrian Clearance input	22 gauge yellow
Logic Ground	18 gauge white with red tracer
+24V DC	18 gauge red with white tracer
+12V DC	18 gauge pink
AC+ Line	14 gauge black
AC- Line	14 gauge white
Earth Ground	16 gauge green
AC line (load bay)	12/14 gauge black
AC neutral (load bay)	12/14 gauge white
Controller A cables	22 gauge blue *with the exception of power wires (AC+ Black, AC- White & Earth Ground Green) These wires shall be 18AWG*
MMU A & B cables	22 gauge orange *with the exception of power wires (AC+ Black, AC- White & Earth Ground Green Start Delay Relay Common Black, Normally open Black & Normally Closed Black) These wires shall be 18AWG*

Three conductors will supply alternating current (AC) power to the load switch sockets. The load switch sockets shall be supplied 1-4, 5-8 & 9-12 by each conductor.

The field terminal blocks shall have a screw Type No. 10 post capable of accepting no less than 3 No. 12 AWG wires fitted with spade connectors. Three (3) 12-position terminal blocks shall be provided in a single row across the bottom of the main panel. Spade lugs from internal cabinet wiring are not allowed on field terminal screws. There shall be a second row of three (3) 12-position terminal blocks with screw type #10 above the field terminal blocks. These blocks shall operate the flash program. It shall be changeable from the front of the load-bay.

The power terminal blocks shall have a screw Type No. 10 post capable of accepting no

less than 3 No. 12 AWG wires fitted with spade connectors. One (1) 12-position and one (1) 6-position terminal blocks shall be provided vertically on the right side of the load bay. The placement of the power terminal block on any other panel shall not be allowed.
All load switches, flasher, and flash transfer relay sockets shall be marked and mounted with screws. Rivets and clip-mounting is unacceptable.

Wire size 16 AWG or smaller at solder joints shall be hooked or looped around the eyelet or terminal block post prior to soldering to ensure circuit integrity. All wires shall have lugs or terminal fittings when not soldered. Lap joint/tack on soldering is not acceptable. All soldered connections shall be made with 60/40 solder and non-corrosive, non-conductive flux. All wiring shall be run neatly and shall use mechanical clamps and conductors shall not be spliced between terminations. Cables shall be sleeved in braided nylon mesh and wires shall not be exposed.

All field wiring terminating in the traffic signal controller cabinet shall be fastened to the termination panels with one piece copper solderless/crimpless wire lugs. Solderless/crimpless lug shall have a maximum wire size capacity of 6.

Load-Bay and Panel Wire Termination

All wires terminated behind the main panel or on the back side of other panels shall be SOLDERED. No pressure or solder-less connectors shall be used. Printed circuit boards shall not be allowed on the load bay.

Cabinet Light Assembly

The cabinet shall have an LED lighting fixture with 15 high power LEDs using a cool white color emitting 300Im min @ 12VDC/750mA. The LED shall be a Rodeo Electronics TS-LED-05M02. The LED fixture shall be powered by a Mean Well class 2 power supply LPV-20-12 that shall be mounted on the inside top of the cabinet near the front edge. The cabinet light circuit shall be designed so a second LED fixture will be installed in the cabinet without the need a of a second power supply. It shall be attached under the cabinet drawer so that it remains stationary when drawer is extended. An on/off switch that is turned on when the cabinet door is opened and off when it is closed shall activate the lighting fixture(s) power supply.

Convenience Outlet

The cabinet shall be wired with one (1) convenience outlet with a ground fault interrupter (GFI) and one (1) six position power strip outlet without ground fault interrupters. The ground fault outlet (GFI) shall be mounted on the right side of the cabinet on or near the power panel. The power strip outlet shall be mounted on the right side, below the bottom shelf. No outlets shall be mounted on the door. The GFI power shall be fed through the auxiliary breaker (CB2). The power strip outlet shall be fed through the ACO breaker (CB3).

Auxiliary Panel

The cabinet shall include an auxiliary switch panel mounted to the interior side of the police panel compartment on the cabinet door. The panel shall be secured to the police panel compartment by (2) screws and shall be hinged at the bottom to allow access to the soldered side of the switches with the use of only a Phillips screwdriver. Both sides of

the panel shall be silkscreened. Silk-screening on the backside of the switch panel shall be upside down so that when the panel is opened for maintenance the silk-screening will be right side up.

At a minimum the following switches shall be included;

Controller ON/OFF Switch: There shall be a switch that renders the controller and load-switching devices electrically dead while maintaining flashing operations for purpose of changing the controller or load-switching devices. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

Signals ON/OFF Switch: There shall be a switch that renders the field signal displays electrically dead while maintaining controller operation for purpose of monitoring controller operations. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

Stop Time Switch: There shall be a 3-position switch labeled “Normal” (up), “Off” (center), and “On” (down). With the switch in the “Normal” position, a stop timing command shall be applied to the controller by the police flash switch or the MMU (Malfunction Management Unit). When the switch is in its “Off” position, stop timing commands shall be removed from the controller. The “On” position shall cause the controller to stop time. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

MMU Override Switches: There shall be a switch that will allow the MMU to be removed without causing the intersection to go into flashing operation provided the cabinet door is opened. The switch shall be normally off and shall have a flip-up switch cover. This switch cover shall force the switch to the off position when closed. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

Technician Flash Switch: There shall be a switch that places the field signal displays in flashing operation while the controller continues to operate. This flash shall have no effect on the operation of the controller or MMU. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

Preemption Test Switches: Six (6) preempt inputs shall have momentary pushbutton test switches with red caps. These switches shall be labeled 1, 2, 3, 4, 5 & 6.

Police Panel

Behind the police panel door there shall be switches for use by emergency personnel. The wiring for these switches shall be accessible when the auxiliary panel is open. The following switches shall be included;

Flash Switch: There shall be a switch for the police that puts the cabinet into flashing operations. The switch shall have two positions, “Auto” (up) and “Flash” (down). The “Auto” position shall allow normal signal operation. The “Flash”

position shall immediately cause all signal displays to flash as programmed for emergency flash and apply stop time to the controller. When the police flash switch is returned to “Auto”, the controller shall restart except when the MMU has commanded flash operation. The effect shall be to disable the police panel switch when the MMU has detected a malfunction and all controller and MMU indications shall be available to the technician regardless of the position of the police flash switch. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

Signals ON/OFF Switch: There shall be a switch that renders the field signal displays electrically dead while maintaining controller operation for purpose of monitoring controller operations. The switch shall be a general-purpose bat style toggle switch with .688-inch long bat.

Cables

All wire cable bundles shall be encased in flex or expandable braided sleeving along their entire free length.

All SDLC cables shall be terminated on both ends, securely terminated to the SDLC interface panel with screw type connection and professionally routed in the cabinet interior to easily reach the load bay, controller, malfunction management unit and detector racks. All SDLC connectors shall be fully populated with 15 pins each.

Flashing Operation

All cabinets shall be wired to flash for all vehicle channels. Flashing operation shall alternate between the used vehicle phases 1,4,5,8, pedestrian phases 2 & 8 and 2,3,6,7, pedestrian phases 4 & 6. Flash programing shall be either red, yellow or no flash simply by changing wires on the front of the load-bay. Cabinet shall be supplied with vehicle phases programed to red flash and pedestrian phases to no flash.

Detector Racks

At a minimum, the cabinet shall be wired to accommodate (16) channels of detection. One detector rack shall support (16) channels of loop detection, (1) Buss Interface Unit (BIU) and (4) channel of Emergency Vehicle Pre-emption (EVP) Detection. The racks shall be capable of using both two channel or four channel detection devices or discriminator cards. The loop cabling shall be connected via a 37 pin DB connector using spring clips. The EVP cable shall be connected via a 24 pin connector using locking latches. The power cable shall be a 6 pin connector. All power wires shall be 18AWG. The addressing of detector racks shall be accomplished via dipswitches mounted to the PCB. There shall be the capability to turn off the TS2 status to the BIU for the uses of TS1 detector equipment via dipswitches mounted to the PCB. There shall be a 34 pin connector using locking latches that breaks the output from the detector to the input of the BIU, there shall also be +24VDC and logic ground on this connector. All racks shall have space at the bottom front for labeling. All racks shall be designed for horizontal stacking. Separate racks for detection and preemption are not allowed.

Emergency Vehicle Pre-emption (EVP) Auxiliary Interface Panel (AIP)

There shall be an AIP installed in the cabinet. At a minimum it shall be soldered to the

load switch green outputs phases 1-8. This panel shall have a protective plastic cover. The panel shall be mounted directly to the detector panel.

Detection Panel
The detection panel shall support (16) channels of vehicle detection, (4) channels of emergency vehicle preemption detection, (8) channels or pedestrian detection and (8) pedestrian returns on a single panel. The loop wires shall be a 22AWG twisted pair, color coded as follows. Channel one brown, channel two red, channel three orange and channel four yellow. One of the twisted pair wires of all colors shall have a white tracer and land on the second position terminal of each loop. The emergency preempt wires shall be color coded as follows. +24VDC orange, preempt inputs yellow and ground blue. This panel will be mounted on the lower left side of the cabinet.

Controller "D" Panel
The "D" panel shall be a raised panel with a EPAC M type "D" cables. The "D" cable shall be soldered to the backside of the panel. All other wires shall be mounted to the front side. This panel shall be mounted on the left wall of the cabinet above the detector panel.

Power Supply Interface Panel
The power supply interface panel shall include terminations for all the cabinet power supply inputs and outputs. It shall have a protective plastic cover. This panel shall be mounted on the left wall of the cabinet above the top shelf.

SDLC Panel
The SDLC panel shall have six 15 socket DB connectors mounted to a PCB. The PCB shall be mounted to an "L" bracket for attaching to cabinet "C" channel. All SDLC cables shall attach with screw type retainers. There shall be one position with latching blocks to mate with latching spring blocks. This panel shall be mounted on the left wall of the cabinet above the top shelf.

Video Power Panel
The video power panel shall have five (5) din rail mounted terminal blocks, capable of accommodating 4 size #14 wires in each hole. There shall be two (2) for 120 AC+, two (2) for 120 AC- and one (1) for ground. They shall be labeled respectively. This panel shall be mounted on the right wall of the cabinet above the power panel.

Spare Panels
A sheet metal panel 12" x 10" shall be installed on the right wall of the cabinet between the shelves.

Service Surge Suppression
The cabinet shall be equipped with an EDCO model SHP300-10 or approved equivalent surge arrestor mounted on the power panel. Power to all cabinet electronics equipment shall come through this surge suppression circuit.

Power Panel
The power panel shall handle all the power distribution and protection for the cabinet and

shall be mounted on the lower right wall of the cabinet. All equipment shall be mounted on a 12” x 17” silkscreened aluminum panel and include at a minimum the following equipment:

- A 30-amp main breaker shall be supplied. This breaker shall supply power to the load bay, load switches and auxiliary panel. It shall also power via the EDCO SHP300-10, the controller, MMU, power supply & detector racks.
- A 15-amp auxiliary breaker shall supply power to the fans, lights and GFI.
- A 15-amp equipment breaker shall supply power to the video power panel and power strip outlet.
- A 60-amp, 125 VAC radio interference line filter.
- A normally open, 50-amp, solid-state relay. The relay shall have a green LED light that is on when energized. (No Mercury Contactors shall be allowed)
- One see-through Plexiglas cover on stand-offs to protect maintenance personnel from AC line voltages. This shall be removable by loosening screws but without removing screws.
- Two (19) position solid aluminum, tin plated neutral buss bar with raised slotted & torque style screw heads.
- One (19) position solid aluminum, tin plated ground buss bar with raised slotted & torque style screw heads.
- Two MOVs shall be terminated on the 120AC in field terminal. One tied between line and ground, the other between neutral and ground.

Display Panel

The display panel shall have LED indicator lights, with appropriate colors for each indication represented. The indicators shall be arranged to reflect a typical 8 phase intersection. The panel shall have 3-position detector switches oriented with each vehicle and pedestrian phase indicator light. The switches shall operate as follows; locking call (up), normal operations (middle), momentary call (down). They shall be labeled for each phase. There shall be a door switch to turn on power to the display when the door is open. When the door is closed the switch will remove all power to the indicators. The display LEDs shall be powered by the input side of the load switches. North orientation shall always be in the up direction. All vehicle and pedestrian phases’ indicator lights shall match the intersection layout. Test switches shall be programmable by connectors on the backside of display panel.

Manuals & Documentation

The cabinet shall be furnished with (3) complete sets of cabinet prints. All cabinet wiring, and layout shall come on (1) E1 size sheet, multiple pages shall not be allowed. Upon request (1) CDROM with AutoCAD v2008 cabinet drawing for the cabinet wiring.
The following auxiliary equipment and plug-ins shall be included in the cabinet unless otherwise is noted.

Malfunction Management Unit (MMU)

The cabinet shall come with a (MMU) Reno A & E 1600 GE.

Load Switch

The cabinet shall come with (12) load switches. All load switches shall be discrete type and have LED indications for both the input and output side of the load. The load switches shall be PDC model SSS-86I/O or approved equivalent.

Unused Red Jumpers
The cabinet shall be supplied with (12) unused red jumpers. They shall be made out of .063 inches thick aluminum, 2" x 11/16". The U-shaped cut-out shall be exposed aluminum with the rest of the jumper covered with red, heat-shrink tubing insulation.

Flasher
The cabinet shall come with (1) flasher. The flasher shall be discrete type and have LED indications. The flasher shall be PDC model SSF-86-3 or approved equivalent.

Flasher Transfer Relay
The cabinet shall come with (4) heavy duty flash transfer relays. The relays shall be Detrol Controls model 295 or approved equivalent.

Bus Interface Unit (BIU)
The cabinet shall come with (1) bus interface units (BIU). These shall meet all the requirements of NEMA TS-2 1988 standards. In addition, all BIUs shall provide separate front panel indicator LED's for DC power status and SDLC Port 1 transmit and receive status. The (BIU)'s shall be Eberle Design, Inc. model BIU700 or approved equivalent.

Power Supply (PS)
The cabinet shall come with a shelf mounted cabinet power supply meeting at minimum TS 2-2003 standards. It shall be a heavy duty device that provides +12VDC at 5 Amps / +24VDC at 2 Amps / 12VAC at .25 Amp, and line frequency reference at 50 mA. The power supply shall provide a separate front panel indicator LED for each of the four outputs. Front panel banana jack test points for 24VDC and logic ground shall also be provided. The power supply shall provide 5A of power and be able to cover the load of four (4) complete detector racks. The (PS) shall be Eberle Design, Inc. model PS250 or approved equivalent.

Loop Amplifiers
The cabinet shall come with (4) 4-channel detector amps (Reno ½ width) WS Part # 5620040065 RENO A&E, 4-channel, TS2, 1.12 Wide Faceplate, E/2-1200-SS.

Standards for Pre-qualifying Traffic Signal Controllers

All local controller equipment shall be submitted to City of Stockton Signal Shop for visual inspection and field-testing (field-testing may take up to 3 weeks) prior to bidding. Only those cabinets, controllers, and modules pre-qualified will be allowed to bid.
Prequalification will be based, in part, upon quality of construction, materials used, track density of boards, ability to easily repair boards, overall physical size of controllers, ease of programming, and changes thereto of the total controller for all functions including preemption at each intersection.

CONTROLLER CABINET FOUNDATION

Type M traffic signal controller foundations shall be 18" above finished grade. All edges and corners of foundations shall be rounded or chamfered 1.5 inches radii to prevent chipping. Top surface of foundation shall have smooth or polished surface. No broom finish allowed. This is to facilitate cleaning in the future.

Anchor bolts for the controller cabinet shall extend 1-1/2 inches (plus or minus 1/8 inch) above the top of the foundation. When installing cabinet foundation bolts, install bottom set of nut and washer threaded on the foundation bolts so the nut is embedded in the concrete foundation. The bottom washer shall rest on the top of the concrete foundation. The cabinet then is placed on the washer to prevent direct contact on the concrete foundation. Mastix or plumber's tape shall be all along the base of the cabinet between the washers. After the cabinet is installed on the foundation, silicon sealant shall be used along the outside and inside of the cabinet base to ensure waterproofing.

The one inch foundation drain pipe in the back of the cabinet shall be fitted with a union fitting, with the union fitting set just below the top of the foundation grade. A 4" piece of 1" pipe shall be placed in the fitting until the concrete is cured. Then the 1" pipe if removed to ensure the drain is the lowest point of the foundation and will drain properly if it becomes necessary. The foundation shall be located on Minor Street nearest approach unless indicated differently.

WORKMANSHIP - FIELD CONDUCTOR PLACEMENT

Six to eight feet of field wiring, in two to three coils shall be placed in the bottom of the cabinet. These coils shall be neatly bound using tie wraps. Each set of vehicle, pedestrian, pedestrian push button, DLC, common, camera wiring shall be incrementally brought out the coiled bundle depending on it's connection point in the cabinet. All conductors or groups of conductors shall be labeled appropriately and only long enough to neatly connect to the load bay or terminal inside the cabinet. The fiber optic cable shall be securely attached to the right side of the cabinet. The connecting ends shall be long enough to be neatly placed along the back right corner of the cabinet and brought up to the camera modem or Ethernet switch. Labeling of field conductors shall use plastic labeling tie wrap, using permanent black marker compatible with nylon or plastic ty-wrap style.

77-1.23 LUMINAIRES AND NUMBERING STREET LIGHTING POLES AND TRAFFIC SIGNAL POLES

The Contractor shall furnish and install luminaires in accordance to City of Stockton Standard Drawing R88 through R92.

Copper and Wire for Street Lighting

The work shall consist of furnishing and installing street light conductor in conformance with the plans, these Specifications, and as directed by the Engineer.

Copper wire shall be UL approved A.W.G. No. 8 Minimum, 7-strand soft copper, type THWN or THHN with minimum of 3/64 in. polyvinyl chloride insulation, unless otherwise noted. No. 10 in pole may be used.

Full compensation for furnishing all labor, materials, equipment, tools and incidentals

necessary to complete the installation of copper wire as indicated on the plans, in these Special Provisions, and as directed by the Engineer shall be included in the lump sum price paid for “Traffic Signals and Electrical” and no additional compensation shall be allowed therefor.

77-1.24 FIBER OPTIC CABLING (EXISTING LOCATIONS)

General

For relocation of controller cabinets as shown on the plans, the contractor shall be responsible to perform the relocation and connection of the existing fiber optic cable. It is necessary to maintain communications and protect cabling during construction.

If the fiber and its associated connectors are damaged due to the contractor‘s activities, the contractor shall be fully responsible to replace the existing fiber with new. The contractor shall contact AT&T and hire AT&T as sub-contractor to install and test a new fiber cable from the original splice point or termination to an original splice point or termination. Replacement, testing and verification of the new fiber optic cabling shall be done by AT&T. As a subcontractor, all costs incurred by AT&T shall be the responsibility of the contractor.

The fiber optic cable shall be spliced at the splice vaults if available. The amount of new fiber optic cable slack in splice vaults and the number of new fiber optic cable splices shall be equivalent to the amount of slack and number of splices existing before the damage or as directed by the Engineer.

The Contractor shall demonstrate that repaired or replaced elements operate in a manner equal to or better than the replaced equipment or as directed by the Engineer. If the Contractor fails to perform required repairs or replacement work, as determined by the Engineer, the City may perform the repair or replacement work and the cost will be deducted from monies due to the Contractor.

The contractor shall remove all wires first, before removing fiber optic cable from the existing signal cabinet. The connectorized fiber optic cable shall be protected such that none of the pigtails can be damaged during the pulling through any conduit. The fiber optic cable shall be protected in place in the nearest pull box, in the fiber run, next to the signal cabinet.

Before any other wires are installed, the existing fiber optic cable shall be re-installed, from nearest pull box, through conduits into the new signal cabinet and re-start communications. The fiber optic cable shall be re-installed in a timely manner in order to minimize the time that the communications are out of service.

The fiber optic cable shall be secured in the new traffic signal cabinet with Velcro type wrapping. Plastic type wrappings are acceptable.

The Contractor shall be fully responsible for assembling, installing, testing, and troubleshooting the fiber optic cable system.

Payment for performing the above work shall be included in the modify traffic signal item of work for each location, and no additional compensation will be allowed, therefore.

Testing and Documentation
Fiber optic testing shall only be conducted if an existing fiber optic cable is to be replaced with a new fiber optic cable due to damage done by the contractor.

The contractor shall retain AT&T to conduct, verify and certify all fiber tests and connections. Documentation of all test results (factory and field tests) and fiber run as-builts shall be submitted to the Engineer within two (2) working days after completing the tests.

Testing shall include the tests on elements of the passive fiber optic components:

(1) At the factory:

The Manufacturer with the appropriate documentation shall supply verification of the fiber specifications as listed in the Fiber Characteristics Table. After cabling, before shipment but while on the shipping reel, one hundred (100%) percent of all fibers shall be tested for attenuation. Copies of the results shall be (1) maintained on file at the Contractor's, Manufacturer's and Owner's place of business with a file identification number for a minimum of ten (10) years, (2) attached to the cable reel in a waterproof pouch, and (3) submitted to the Contractor and to the Engineer prior to the delivery of the cable to the jobsite.

(2) After delivery to the project site but prior to installation:

The Cable and reel shall be physically inspected by the Contractor on delivery and one hundred (100%) percent of the fibers shall be tested with the Optical Time Domain reflectometer (OTDR) for attenuation to confirm that the cable meets requirements.

OTDR testing shall be done at the following points in the system construction:

- At cable delivery (reel test).
- Following cable installation prior to connectorization, termination or splicing.
- End to End following installation of all pigtails, connectors, and termination devices.

In addition, the final test (post-connectorization test) shall be completed with an optical power meter and light source.

Test results shall be recorded, dated, compared with the manufacturer factory test results and filed with the factory manufacturer test results accompanying the shipping reel in a weatherproof envelope. Attenuation deviations from the shipping records greater than five (5%) percent shall be brought to the attention of the Engineer in writing. The cable shall not be installed until completion of this test sequence and written approval by the Engineer is received. Copies of traces and test results shall be submitted to the Engineer.

If the OTDR test results are unsatisfactory, the reel of fiber optic cable shall be considered unacceptable and all records corresponding to that reel of cable shall be marked accordingly. The unsatisfactory reels of cable shall be replaced with new reels of cable at the Contractor expense. The new reels of cable shall then be tested to demonstrate acceptability. Copies of the test results shall be submitted to the Engineer for approval.

(3) After installation but prior to connection to any other portion of the system:

After the fiber optic cable has been pulled but before breakout and termination one hundred (100%) percent of all the fibers shall be tested with the OTDR for attenuation. Test results shall be recorded, dated, compared, and filed with the previous copies of the tests Copies of traces and test results shall be submitted to the Engineer for approval. If the OTDR test results are unsatisfactory, the fiber optic cable segment will be unacceptable. The unsatisfactory segment of cable shall be replaced with a new segment, without additional splices, at the Contractor's expense. The new segment of cable shall then be tested to demonstrate acceptability. The contractor shall also perform end to end attenuation test, utilizing a power meter in field, after installing the cable to establish the integrity and performance of the system and its components. The end-to-end attenuation shall not exceed the sum of the maximum allowable attenuation for the component cable segments, splices, and typical loss for connectors. Nor shall the attenuation from an individual connector exceed the maximum allowable losses. If the fibers in the cable exceed the allowable loss, the Contractor shall take corrective measures to bring the cable's total attenuation below the allowable limit, including replacement of the cable at the Contractor's expense.

The contractor shall perform all OTDR testing in the presence of the Engineer. The Engineer shall attach their written mark to all test I documentation made by the Contractor at the time of the test. Testing performed by the Contractor and not witnessed by the Engineer shall not be accepted, re-testing will be required.

The contractor shall verify that the attenuation and optical continuity of each active and spare optical fiber in the cable plant satisfies the specified requirements.

Attenuation and continuity shall be measured at the operational wavelength of the equipment being used on the link. If the operational wavelength is unknown, the attenuation shall be measured at both 1310nm and 1550nm.

Testing of fiber links shall be completed in such way, to show the loss of each connector, in the OTDR trace. The tests shall be conducted in both directions. The test shall be performed at both wavelengths (1310 and 1550 nm). The cable shall be tested in accordance with EIA-455-3A (FOTP-3), "Procedure to Measure Temperature Cycling Effect on Optical Fiber, Optical Cable, and Passive Fiber Optic Components". Copies of the test results shall be submitted to the Engineer for approval.

(4) During the final system testing:

The active components shall be tested after installation. The Contractor shall provide all

personnel, equipment, instrumentation and materials necessary to perform all testing. The Engineer shall be notified in writing a minimum of two (2) working days prior to all field tests. The notification shall include the exact location of the system to be tested.

The fiber optic shall be in one continuous length without factory splices in the fiber. Installation procedures and technical support information shall be furnished at the time of delivery. The change in attenuation at extreme operational temperature for single mode fiber shall not be greater than 0.20dB/km, with 80% percent of the measured values no greater than 0.10dB/km. The single mode fiber measurement is made at 1550nm.

The contractor shall also follow the following guidelines for efficient and accurate test results:

- Ensure that the test jumpers (end-to-end attenuation) or test fiber box (OTDR) are of the same fiber core size and connector type as the cable system, e.g., 50/125 µm core test jumpers should be used for testing a 50/125 µm multimode cable.

- Ensure that optical sources are stabilized and have center wavelengths within ± 20 nm of the 850/1300 nm multimode and 1310/1550 nm single-mode nominal wavelengths. In accordance with TIA/EIA-526-14-A, multimode LED sources should have spectral widths from 30-60 nm at 850 nm and 100-140 nm at 1300 nm.

- Ensure that the power meter is calibrated at each of the nominal test wavelengths and traceable to the National Institute of Standards and Technology (NIST) calibration standard.

- Ensure that the power meter and the light source are set to the same wavelength.

- Ensure that all system connectors, adapters, and jumpers are properly cleaned prior to and during measurement.

Full compensation for conforming to the provisions in this section shall be considered as included in the contract price paid for traffic signal and no additional compensation will be allowed thereof.

77-1.25 BLANK

77-1.26 STREET NAME SIGNS

The Contractor shall provide and install street name signs as shown on the plans and in accordance with these Special Provisions. Contractor shall supply sign brackets and all necessary hardware to install signs. Payment of furnishing brackets, hardware, and installing street name signs shall be included in the lump sum bid item for “Traffic Signal and Electrical”.

The contractor shall submit a street name sign design as part of the submittals to be approved for conformance prior to ordering the street name signs. Street name sign block numbers shall be installed on the lower right-hand side of each street name sign. The street name sign shall be installed in conformance with the City of Stockton Standard Drawings number R94. The street name sign shall be type, at least, HIP series 3900 sheeting. The street name sign bracket shall be double banded on mast arm.

R3-4 (No U-Turn) mast arm sign shall be 36"x36".
R73-2 (CA) (Left-Turn & U-Turn) mast arm sign shall be 36"x36".

77-1.27 TRAFFIC SIGNAL CONTROLLER COMMUNICATIONS AND CCTV SYSTEM

Fiber Optic Ethernet Switches

The contractor shall supply and install the following devices one in the field controller cabinets and one in the City's Traffic Management Center (TMC) to establish communication between devices such as the traffic signal controller, IP based camera, and their associated central servers in TMC. Each Fiber Optic Ethernet Switch shall consist of the following:

1. GENERAL SPECIFICATIONS

The Ethernet data switch shall be environmentally hardened Ethernet 8-port managed switch, supports 10/100/1000 Mbps (one for field and one for central control center installation), with manufacture provided lifetime warranty.

The module shall support transmission utilizing Category 5 cable or better, multimode, or single-mode fiber. The module shall support the Ethernet data IEEE 802.3 protocol using Auto-negotiating and Auto-MDI/MDI-X features. The module shall feature 4 (four) 10/100/1000T(X) RJ-45 ports and 4 (four) combo 10/100/1000T(X) RJ-45 ports / 100/1000FX ports. Use of an SFP port disables the corresponding 10/100/1000TX RJ-45 port. Similarly, use of a 10/100/1000TX RJ-45 port disables the corresponding SFP port. The module shall require no in-field electrical or optical adjustments or in-line attenuators to ease installation. The module shall provide power, link speed, and fiber port status indicating LED's for monitoring proper system operation. The modules shall provide automatic re-settable solid-state current limiters on each module to reduce the chance of a single point failure of the system. The module shall have dual redundant power supply connections to minimize single point failure. The module shall provide a serial connection for local management of the device. The module shall have a lifetime warranty to reduce system life cycle cost in an event of a module failure.

1. DATA SPECIFICATIONS
   a) Data Interface: Ethernet IEEE802.3
   b) Data Rate: up to 1000 Mbps
   c) Data Inputs/Outputs: up to 8
   d) Operation Mode: Half or Full Duplex

2. OPTICAL SPECIFICATIONS
   a) Number of Optical ports: up to 4 SFP-based

b) Number of Fibers Required: 1 or 2, SFP-dependent
c) Optical Wavelength: 850, 1310 or 1550 nm, SFP-dependent
d) Optical Power Budget: SFP-dependent
e) Maximum Distance: up to 120 km (70 mi) single mode, SFP-dependent

3. STATUS INDICATORS
   a) Power 1-2: Proper Power = Green
   b) R.M.: C-Ring Master = Green
   c) Ring: Ring Enabled = Green
   d) Fault: Fault Present = Amber
   e) RJ-45 Link/Data: Green, No Link/No Data: Off
   f) SFP Link/Data: Green, No Link/No Data: Off

4. CONNECTORS
   a) Optical: LC or SC, SFP-dependent
   b) Power: Screw Clamp Terminal Strip
   c) Data: RJ-45
   d) Console: RJ-45 serial communication.

5. ELECTRICAL SPECIFICATIONS
   a) Power: Two Redundant 12VDC to 48VDC @ 25W maximum input
   b) Current Protection: Automatic re-settable solid-state current limiters
   c) Voltage Regulation: Solid-state, Independent on each board
   d) Circuit Board: UL 94 flame rated and meets all IPC standards.

6. ENVIRONMENTAL SPECIFICATIONS
   a) MTBF: >100,000 Hours
   b) Operating Temp: –40˚ C to +75˚ C
   c) Storage Temp: -40˚ C to +85˚ C
   d) Relative Humidity: 0% to 95% (non-condensing).

7. MOUNTING SPECIFICATIONS
   Shall be mounted on wall, shelf, and DIN rail

8. REGULATORY AGENCIES/APPROVALS AND LISTINGS
   a) Underwriters Laboratory (UL) Listing
   b) UL 94-flame rated PCB board

9. SMALL FORM-FACTOR PLUGGABLE (SFP) MODULE
   a) All SFPs should come with manufacture provided lifetime warranty.
   b) Temperature Requirements: Products shall operate in an environment with an ambient temperature range of 0˚ F to +150˚ F without the assistance of fan-forced cooling. The modules shall have an MTBF (Mean time between failures) of >100,000 hours.

c) Provide MSA Compliant one fiber SC Small Form-Factor Pluggable (SFP) Optical Device. The devices shall utilize 1000fx, 1310/1550 nm optics capable of simultaneous bi-directional signal transmission on one single mode optical fiber. The SFPs shall have the same transmitting sensitivities with the matching SFPs upstream or downstream. The SFP modules shall have different wavelengths and optical power to offer distances from 300 meters to 120 kilometers. The module shall require no in-field electrical or optical adjustments or in-line attenuators to ease installation. The module shall be UL listed. The circuit board shall be UL 94 flame rated and meet all IPC standards. Housing shall be of all metal construction. All LED indicators and both electrical and mechanical connections shall be identified with silk-screened labels. The Contractor shall install one 1000fx, 1550nm, 1 fiber SC SFP into Port 4 of the 8-port Ethernet switch and one 1000fx, 1310nm, 1 fiber SC SFP into Port 1 of the 8-port Ethernet switch for field installation, and deliver one each of the 1550nm and 1310nm SFPs to the City for central installation.

d) Copper 10/100/1000 Mbps RJ45 SFP module. The module shall require no in-field electrical or optical adjustments or in-line attenuators to ease installation. The module shall be UL listed. The circuit board shall be UL 94 flame rated and meet all IPC standards. Housing shall be of all metal construction. All LED indicators and both electrical and mechanical connections shall be identified with silk-screened labels. Housing shall be of all metal construction. The Contractor shall install one each copper RJ45 SFP in ports 5 and 6 of the 8-port Ethernet switch in traffic signal cabinet and deliver additional two for central installations.

The module shall be UL listed. The circuit board shall be UL 94 flame rated and meet all IPC standards. Housing shall be of all metal construction. All LED indicators and both electrical and mechanical connections shall be identified with silk-screened labels. Housing shall be of all metal construction. The Contractor shall install one each copper RJ45 SFP in ports 5 and 6 of the 8-port Ethernet switch in traffic signal cabinet and deliver additional two for central installations.

3. ACCESSORIES

a) 6-foot Cat5e cable (with yellow skin) to connect the traffic signal controller and port 5 of the 8-port Ethernet switch.
b) 6-foot Cat5e cable (with red skin) to connect the EVP phase selector and port 6 of the 8-port Ethernet switch.
c) Associated switch mounting hardware, power supply.
d) Other accessories as required by the manufacturer.

After submitting the Ethernet switch and SFP submittals, under the direction of the Engineer, the Contractor may be required to demonstrate that the proposed switch and SFPs adhere to the requirements of these technical specifications. The demonstration shall take place at a City signalized intersection and at City Hall. The demonstration shall show that the proposed switch and SFPs can transmit and receive data between testing traffic signal controller and City's existing centralized traffic signal servers, and between other traffic signal controllers in the same communication channel and network. The switch and SFP modules used in the demonstration shall be the exact make and model of the modules that Contractor proposes to install in the field. Satisfactory demonstration of the switch and modules functionality shall be determined by the Engineer. The Contractor shall be responsible arranging the demonstration at no additional charge to the City nor to the project.

Monitoring Camera Cabling (General)
CAT5e RJ45 10/100/1000Base-TX Ethernet (High Power-over-Ethernet) or PoE+ (IEEE 802.3at, class 4 standard) 21-30 VAC, 50/60 Hz, outdoor, shielded cable with integrated ESD drain wire and anti-crosstalk divider and secondary shielding. RJ45 connectors shall provide protections against ESD attacks and Ethernet hardware damages,

Power cable shall be A11403-BWG (water and sun resistant, 3 #14 AWG, white/green/black, UL Type TC 600V, NEC Type TFN Conductors, IEEE 1202/CSA FT4, IEEE 383, UL Subject 1277, and OSHA acceptable) or accepted equivalent.

Traffic Monitoring Camera Conductors Field Installation (General)
The installation of the wiring will require that a hole be drilled into the camera supporting structure for all the camera installations. Prior to drilling this hole, the existing wiring inside the pole or mast arm shall be removed or protected such that it is not damage by the drilling operation. The edges of the drilled hole shall be smoothed. The Contractor shall install a watertight gland nut (or grommet) in this hole that securely holds the wiring. All cables shall be:

- Installed without damaging the conductors or insulation
- Installed without kinks
- Handled in accordance with manufacturers specifications and recommended bending radius
- Run continuously between terminations without splices
- Installed with sufficient slack for equipment movement
- Neatly tagged at the cabinet to indicate which camera it serves
- Rated for outdoor use and resistant to water and UV radiation
- Have a watertight, strain relieved plug type connection to the camera housing

The Contractor shall make all connections of this wiring to the camera assembly, the video transmission device, and power.

High Speed Dome Pan/Tilt/Zoom Traffic Monitoring Camera
The high-speed camera unit shall be 1080p HD Outdoor Day/Night Network PTZ Dome Camera that delivers 1920 x 1080 resolution video with up to 30x optical zoom and

providing a 360-degree viewing field. It comes equipped with an outdoor pendant housing. It features complete network-based control of all dome functionality, including pan/tilt/zoom operation, presets, tours, and alarms, as well as web-based configuration of all dome settings. It also provides direct network video streaming using H.264 compression and bandwidth throttling to efficiently manage bandwidth and storage requirements. Equipment shall include all mounting adaptor (pole mount, and/or luminaire arm mount), pendant arm and power supply, camera unit, data cable, power cable, to make the installation complete and operational with the existing City traffic management's video system.
The camera shall meet all federal Buy America provisions.
The camera shall be fully compatible and shall communicate with the City's existing Bosch' Allegiant Microprocessor Based Switcher/Control System LTC 8903/60, without requiring modification or re-configuration after being decoded. After submitting the camera submittal, under the direction of the Engineer, the Contractor may be required to demonstrate that the proposed camera adheres to the requirements of these technical specifications. The demonstration shall take place at a City facility and show that the camera is compatible with the existing camera switch, and that the camera can be controlled from the City's central camera control location. The camera used in the demonstration shall be the exact make and model, using the exact software, of the camera that Contractor proposes to install in the field. Satisfactory demonstration of camera functionality shall be determined by the Engineer. The Contractor shall be responsible arranging the demonstration at no additional charge to the City nor to the project.

The proposed camera shall have features and functionality that meet or exceed the following specifications:

1. The mounting hardware shall include a mast mount option to be installed on traffic signal poles, as well as a pipe mount option to be installed on luminaire arms.
2. If it is mast mounted, the arm mount assembly shall provide minimum 14" clearance between the edge of the pole and the center of the camera.
3. The camera and its housing's weight shall not exceed 7 lbs.
4. Camera shall have a minimum of 50 preset scenes, which shall be presentable in a preset tour.
5. Camera assembly shall be housed in an IP66 enclosure.
6. Shall have at a 30x Zoom, and 12x Digital Zoom. The 12x digital zoom shall not cause the image to become unrecognizable.
7. The effective pixel shall be 1900x1040(2.0 MP).
8. Shall have internal heater that is powered through RJ45 10/100Base-TX Ethernet (High Power-over-Ethernet) 21-30 VAC, 50/60 Hz.
9. The camera shall have a wide dynamic range of 120 dB and signal-to noise ratio greater than 50dB.
10. The camera shall be capable of the following preset speeds:
    a. Pan – 360 degrees per second
    b. Tilt – 250 degrees per second
11. The camera shall be capable of automatically pivoting the sensor to follow a target that moves underneath the camera.

12. Record and play back minimum two 30-minutes tours.
13. The lens shall return to a preset scene after a user defined idling time.
14. The pan, tilt, and zoom shall be able to function simultaneously for manually tracking speeding objects.
15. The camera shall be able to be configured remotely without needing to access any part of the camera equipment locally.

The camera shall meet or exceed the following technical specifications:

Construction

Housing:	Aluminum
Bubble:	Acrylic (high-resolution), clear
Installation Environment:	IP66, NEMA 4X
Operating Temperature:	Maximum 130 F Minimum 15 F

Electrical

Input Voltage:	21 to 30 VAC, 50/60 Hz
Power Consumption:	60W (max)
Control Data:	RJ45 10/100Base-TX Ethernet
Video:	H.264 (ISO/IEC 14496-10), MJPEG, JPEG
Audio:	Available

Testing and Final Acceptance

Make proper adjustments to video system devices to for correct operation in accordance with manufacturer's instructions.

Make any adjustment of camera settings that are required in order to meet the operations needs of the City.

Demonstrate upon final inspection that the video management system and devices function properly when controlled from Central.

The Contractor shall be fully responsible for purchasing, assembling, installing, testing, and troubleshooting the camera system and all the corresponding camera mounting hardware at each installation location.

High Speed Dome Pan/Tilt/Zoom Camera Installation
The Contractor shall first obtain IP addresses from the City for each camera, install and fully adjust the camera with the associated lens, power supplies, housings, and all-necessary cabling, etc., to make the assembly operational. The Contractor shall firmly attach the dome system to the assigned poles as shown on the Plans. The Contractor shall exercise care to tighten the camera mount within the torque limits specified by the camera manufacturer.

The Contractor shall properly terminate all of the electrical cables to the camera and firmly attach them. The Contractor shall dress and secure the electrical cables inside the dome enclosure and traffic signal cabinet so that they do not interfere with the closing of the cabinet, with the fan, or with any other moving part.

Cameras and other video sources where possible, shall use the electrical power supply 60 Hz signal for synchronization. When cameras are initially installed, the camera shall be in a position where its view of the roadway will not be obstructed by the pole it is mounted on. At a 4-leg intersection, the camera shall be capable of seeing all four legs without its view being blocked by the signal pole.

After all cameras are installed and central equipment is operational, the Contractor shall arrange an interactive session with the Engineer to fine-tune any adjustments to the camera that require a technician in the field. This session shall enable the Engineer to observe the image at the control room while being in verbal communication with the Contractor at the camera.

Payment
Payment for furnishing and installing traffic signals, street lighting, and interconnect shall conform to the provisions in Section 9, "Payment," of the Caltrans Specifications and these Special Provisions.

Full compensation for furnishing the labor, materials, tools, equipment, including installing PTZ cameras, video and data modems, hardware, conduits, and wiring, complete in place as shown on the plans and as specified in the Standard Specifications, these Special Provisions, and as directed by the Engineer, shall be considered as included in the contract lump sum price for various traffic signal locations paid for under “SIGNAL ATP” and no additional compensation will be allowed therefor.

Hauling and stockpiling of salvaged material off the right-of-way and delivered to the City Corporation Yard, 1465 South Lincoln Street, will be considered as included in the contract prices paid for the various items of work, and no additional payment will be allowed therefor.

77-1.29 REMOVING, REINSTALLING OR SALVAGING ELECTRICAL EQUIPMENT

Removing, reinstalling or salvaging electrical equipment shall conform to the provisions in 87-21.03A “General” and 87-21.03D “Removing Existing Electrical Systems” of the Caltrans Specifications and these Special Provisions.

Existing facilities that are removed (i.e., streetlights, electroliers, frames, grates, covers, roadside signs, etc.) shall be salvageable wherever shown on the plans and as determined by the Engineer. Equipment shall be tagged with intersection name from which it was removed.

All equipment to be salvaged shall be handled as follows: All signal equipment (signal heads, pedestrian heads, push buttons, etc.) shall be removed from the poles and stacked on pallets. This includes signal hardware, conductors, and terminal compartments. The equipment shall be secured on the pallets and delivered to Corporation Yard. All poles shall be salvaged to the storage yard on Daggett Road. Contact the City's Operation and Maintenance at (209) -937-8341, giving 3 working days advanced notice prior to delivery. Staff will direct contractor to Daggett Road yard and where to leave signal equipment in the Corp Yard.

All conductors shall be removed from abandoned conduits. Otherwise, removed items shall become the property of the Contractor and shall be disposed of as provided in Section 14 and Section 5-1.20B (4) of the Caltrans Specifications and these Special provisions.

The following material shall be salvage to the contractor;

- 8" traffic signal heads
- Mast arm signal poles
- HP luminaire fixtures
- Traffic signal wires

The following materials shall be salvage to the City;

- Pedestrian signal indications
- Pedestrian push buttons
- 12" traffic signal heads
- Luminaire mast arm and the LED fixture
- 1-B traffic signal poles with ornamental flange cover

DIVISION IX – TRAFFIC CONTROL DEVICES

SECTION 84 – MARKINGS

84-1.01 TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS

Traffic stripes, including crosswalks, shall be placed as shown on the plans, must comply with the California MUTCD, as modified herein, and as directed by the Engineer. All pavement **traffic stripes**, legends, arrows and crosswalks shall be installed with hot applied thermoplastic pavement material. The width and patterns of striping lines shall

conform to the striping details shown in Figures 3A-101 (CA) through 3A-113 (CA) in the California MUTCD.

The thermoplastic material shall be free of lead and chromium and conform to State Specification PTH-02ALKYD (for markings) and PTH-02SPRAY (for stripes). Thermoplastic material shall be applied to the pavement at a minimum thickness of 0.090 inches for long lines (4 inches stripes and 8 inches stripes in width) and 0.100 inches for all legends and arrows. The crosswalk lines and limit lines shall be installed at a minimum thickness of 0.125 inches.

A double extruded thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 2 traffic stripes.

A double sprayable thermoplastic traffic stripe consisting of two 4-inch wide yellow stripes is measured as 1 traffic stripe.

If the contractor chooses to install stripes by using a cart (extruded) rather than a striping vehicle, all striping shall be applied to the pavement at a minimum thickness of 0.090 inches. Glass beads shall conform to State Specification in Section 84-2.02D, 84-2.02E, and 84-2.03C(2)e. Thermoplastic pavement markings and stripes shall be free of runs, bubbles, craters, drag marks, stretch marks, and debris.

Use appropriate installation procedures according to manufacturer. If pavement markings are applied to existing surface over existing painted legends (arrows and crosswalks), existing pavement legends (arrows and sidewalks) shall be removed before thermoplastic material is applied. For either material, pavement shall be preheated to remove all residual moisture prior to installation.

At intersections where existing pavement is removed and replaced, Contractor shall install new crosswalk control points for the City to review and approve.

Configuration of pavement markings and legends shall conform to the detail and methods as set forth in the latest issue of the Caltrans Specifications, unless specifically modified on the plans.

All existing traffic stripes and pavement markings shall be removed where shown on the plans, where the existing striping conflicts with proposed striping, and as designated by the Engineer.

Existing pavement markers, including underlying adhesive, when no longer required for traffic lane delineation, as directed by the Engineer, shall be removed and disposed of.

Removal of traffic stripes and pavement markings, or the removal of objectionable material, shall be performed using methods approved in advance by the Engineer. All resulting residue and dust shall be removed immediately from the surface being treated. Such removal shall be by a vacuum attachment operating concurrently with the blast cleaning operation. **The removal of yellow paint and thermoplastic material shall**

include testing for lead prior to disposal of the material. Disposal of materials containing lead shall conform to state approved practices. The removal of yellow paint and thermoplastic material shall also conform to the provisions in Section 14-1.01 “Construction Site Waste Materials Management” of these special provisions.

The Contractor shall place control points for the Engineer to review and approve. No additional "cat tracks" shall be placed until control points are approved by the Engineer. The Contractor shall obtain approval from the Engineer on all striping cat tracks prior to final application and striping and markers.

The Contractor shall place and remove any temporary striping required for routing traffic through the project area.

All thermoplastic shall be provided by the Contractor. Manufacturer and specifications shall be submitted for approval and shall conform to the specifications contained herein. All thermoplastic supplied shall conform to the local air pollution regulations. Traffic line markings shall be reflectorized conforming to the Caltrans Specifications, Section 84-2,”Traffic Stripes and Pavement Markings”.

Existing surface which is to receive the thermoplastic material shall be mechanically wire brushed to remove all dirt and contaminants. Thermoplastic material shall be applied only to the dry pavement surfaces and only when the pavement surface temperature is above fifty (50°F) degrees Fahrenheit. Thermoplastic shall be applied only on a thoroughly dry surface and during periods of favorable weather.

The Contractor shall make all necessary conform striping as required. The completed stripes and markings shall be sharp and clear with clean, well-defined edges.

Any damage by the elements to the newly stripe or marking due to the failure of any Contractor to protect his work shall be repaired by him at no additional cost. Any over-spray or tracking of fresh thermoplastic material onto unpainted surfacing shall be removed by any methods to the satisfaction of the Engineer.

On one-way streets and median-divided streets, the side of the retroreflective raised pavement markers that is visible to traffic proceeding in the wrong direction shall be red (Type C). The other retroreflective side shall be white or yellow as per the detail. This section is applicable to Details 9, 10, 12, 13, 25, 25A, 26 and 27 in the California MUTCD.

Blue Raised Pavement Markers shall be installed after any surface treatment (overlay, micro-surfacing, chip-seal, cape-seal, etc.) solely for aiding in locating fire hydrants. Typical marker locations are shown on Figure 3B-102 (CA) of the California MUTCD.

(1) *Two-Way Streets*—Markers should be placed 6 inches from the edge of painted centerline on the side nearest the fire hydrant. If the street has no centerline, the marker should be placed 6 inches from the approximate center of the roadway on the side nearest the hydrant.

(2) *Streets with Left Turn Lane at Intersection*—Markers should be placed 6 inches from the edge of painted white channelizing line on the side nearest the hydrant.

(3) *Streets with Continuous Two-Way Turn Lane*—Markers should be placed 6 inches from the edge of the painted yellow barrier line on the side nearest the fire hydrant.

(4) *One-way streets and median-divided streets*—Markers should be placed 6 inches from the edge of lane line on the side nearest the fire hydrant (at least 12' from curb or edge of traveled way).

The noise level created by the combined grinding activities must not exceed 86 dBA when measured at a distance of 50 feet at right angles to the direction of travel.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in placing signs, traffic stripes, painted curbs, pavement markings, pavement markers and legends, including any necessary cat tracks, dribble lines, and layout work, placement, removal, and disposal of any and all conflicting striping and pavement markers, complete in place, as shown on the plans, as specified in the Caltrans Specifications and these Special Provisions, and as directed by the Engineer, shall be included in the prices paid for the various contract items of work involving signs and striping, and no additional compensation will be allowed therefore.

DIVISION X ELECTRICAL WORK

SECTION 87 – EXISTING ELECTRICAL SYSTEMS

Existing traffic signal systems shall be kept in effective operation for the benefit of the traveling public during the progress of the work, except when shut down is permitted. The traffic signal shutdowns shall be limited to the hours of 9:00 a.m. to 3:30 p.m. and shall be permitted only during the switch over from existing to new controller operation, unless prior approval is obtained from the Engineer.

Temporary standards with signal equipment may be required during the construction of the new installation. The Contractor shall provide temporary equipment if he or the Engineer deems necessary. Any contract adjustments that may be warranted due to differing site conditions will be made in accordance with the provisions of Section 4-1.01, "Changes and Extra Work", of these Special Provisions.

The Contractor shall notify the Engineer and Police Department 24 hours prior to any operational shutdown of existing signal system.

The contractor shall be responsible for the maintenance of the entire existing signal system from the first day Contractor starts working on it to the final acceptance. The contractor shall respond to the notice of signal failure from, by the City of Stockton, within two (2) hours and make repairs to the signal system as necessary. If the contractor fails to respond within the specified time, the City's maintenance staff will repair the signal

system. Any costs associated with the repair shall be billed to the contractor. In addition, a penalty of $500 shall be charged to the Contractor for each maintenance call-out where the Contractor does not respond within 2 hours of notification.

Full compensation for performing the work in these specifications shall be included in the prices paid for the various contract items of work, and no additional compensation will be allowed therefore.

DIVISION XI MATERIALS

SECTION 90 – CONCRETE

Attention is directed to the Section 90, “Concrete” of the Standard Specifications and these Special Provisions.

90-1.01 MINOR CONCRETE

Section 90-2, "Minor Concrete", of the Caltrans Specifications is amended by adding the following:

Mineral admixture will be required in the manufacture of concrete containing aggregate that is determined to be "deleterious" or "potentially deleterious" when tested in accordance with ASTM Designation: C 289. The use of mineral admixture in such concrete shall conform to the requirements in Section 90-1.02 of the Caltrans Specifications, "Materials", except the use of Class C mineral admixture will not be permitted.

Portland Cement shall contain not less than 564 pounds of cementitious material per cubic yard for all uses. Fly ash or slag may be added, but cannot replace the required cement, nor may the total cement content of 564 pounds be reduced.

Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in placing minor concrete shall be including in the various item of work involving minor concrete work.